

eCommerce in Greece (2001 – 2007):  
From a business and a consumer perspective

**By**

Dimitrios Xanthidis

***This thesis is submitted for the degree of PhD***

University College of London  
School of Library, Archive and Information studies

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# Dedication

This thesis is dedicated to fond memories of my mother, to my beloved wife Rania for her steadfast unlimited support and patience all these years in all my endeavours, and to Professor David Nicholas who showed the way of becoming a scientist.

# Abstract

It is common knowledge among Greek information and communication technology professionals and business people that despite the considerable growth of internet users' population to levels comparable to the rest of the digitally developed European Union countries, eCommerce activity is at a standstill at almost just over the 0 level. The results of the various surveys conducted locally are quite interesting statistically but do not explain the reasons Greece is not progressing towards the digital economy through the growth of eCommerce activity.

This research is an attempt to break the norm in an effort to provide some insightful information about what is going wrong in Greece in relation not to internet penetration but to eCommerce activity. For this purpose on one hand business, marketing and technology executives were asked to share their understanding on certain qualitative issues related to the utilization of the technology and their strategic approach towards it through structured interviews with them. Additionally the web sites of a quite significant number of local medium and large size companies were evaluated based on a certain template designed for this purpose in an effort to compare executives' thoughts with actual deeds. On the other hand, everyday consumers, not particularly internet users, were conveniently sampled to express their concerns about eCommerce practice and reveal the reasons behind their hesitation to actively get involved with it.

The results point to disappointing low investments in technology and poor organization of eCommerce strategies or completely lack of it despite the fact that professionals are fully aware and appreciative of the benefits such an undertaking would have if done properly. This was also verified by a number of the local web site designers interviewed during the study. As of the consumers, it verified their negative attitude towards eCommerce and provided the reasons behind this reality.

There is a certain gap to be bridged between business people and the consumers which the study identifies while suggesting possible solutions to the problem.

# Acknowledgements

Working towards a research degree is more like running the marathon. The whole work and the end result are yours, of course, but you cannot make it unless you got different kinds of help from other individuals playing different roles. Several years ago I would be ironic to those people saying “I thank very much that person for ....” However, now I deeply understand this statement is not a light and trivial one to make. It bears a heavy load of emotions and meanings which quite reflect my feelings as well.

That said, I would like to thank all those who helped me, one way or another, in this life changing process. The many business executives (58 to be exact), who spent their very expensive time to share invaluable experience with someone who they didn’t know at all before. The more than 250 individuals reached but especially the 158 respondents that accepted to fill in the questionnaire for the digital consumers’ survey. Those 15 non-technology professionals that accepted to spent about 2 hours each getting into the trouble of evaluating the web sites that I asked them to. Special thanks to Mr Paris Argyrides and Mr Salar Mobayen for helping to gather some responses for the surveys of this research.

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Looking back in time I cannot explain how a person with a common intelligence, without financial support from anyone, facing so many severe problems as I did, managed to complete this huge task. It would remain a mystery to me unless I believed, which I wholeheartedly do, that there is a God that “works in mysterious ways” through his Christ Son and the Virgin Mary to provide solutions to all kinds of problems one has that cannot be overcome otherwise. I admit that the main thing I did was to work very hard for countless hours following the guidelines of my supervisor. The rest was His work.

Finally, I must express my deepest sorrow and pain that my mother is not physically with me to enjoy the fruits of this effort which she saw and lived expecting the results of it. I am just very glad that my father’s life was spared a month ago and he’ll be able to live in the “promised land” all of us anticipated so much.

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# Preface

The research presented in this thesis represents an examination of the reality in Greece concerning eCommerce activity from both a business person's and a consumer's viewpoint. It focuses mainly on the practices and attitudes of local professionals towards eCommerce but also the way consumers react against those practices. Additionally an evaluation of the quality of the web sites in Greece was attempted in order to examine whether local online businesses follow the international standards of what a good web site should be like. Lastly, data has been collected by local web designers in an effort to understand how the online business environment is shaped in the country.

**Chapter One** provides a general overview of the local environment, business or other, related to internet usage but especially eCommerce activity and the various actors that play a role in it either business professionals or consumers. It also provides a portrayal of the digital consumer in Greece based on the surveys conducted locally as well as the business executives that mainly influence and guide whatever business activity including online activity. Finally, the aim and the objectives of this research effort are presented and explained in detail here.

**Chapter Two** provides the conceptual framework of this study by analyzing the background literature relating to eCommerce activity and the international experience from it. It first presents and explains those factors that direct and affect digital economy growth. Furthermore it provides a picture of the internet usage worldwide placing Greece in that global context and informs about the current standing of eCommerce growth in Greece while explaining the reasons behind the various problems faced in the Greek digital market. Then, it presents the opinions from professionals worldwide concerning the various issues related to eCommerce and describes the stages an eCommerce solution may go through and the associated costs.

Additionally, this chapter delves into technical aspects of eCommerce implementation standards presenting and explaining in detail the concepts of stickiness, customization and globalization, accessibility and availability, security and privacy. Furthermore, it provides a detailed description of the issues and concerns related to consumer behavior based on the international paradigm. Finally, the methodology of web log analysis for processing the statistical data generated by the web servers is presented and the related terminology is briefly explained despite the fact it was not feasible to proceed with a web log analysis of local businesses' web sites.

**Chapter Three** presents and explains in detail the methods used for this study with an overview of the rationale and the objectives behind it and its constituent components and the research questions to be answered. The sampling process, the data collection mechanisms and the methodology for analyzing the data are also described.

**Chapter Four** is the first part of the findings. It presents the results of the business executives' interviews concerning their understanding of the various qualitative concepts and issues related to eCommerce, e.g. the role of eCommerce in contemporary business, etc. It also delves deeper revealing details about practical and quantitative elements of their eCommerce solutions, for example the scope of their online strategy, the investments made, and their expectations from them, and so on. Then, it presents the results of a technical evaluation of the web sites of the local online businesses which was based on a methodology introduced by the author especially for the cause. Finally, this chapter provides an analysis and discussion on the identification, practices and perceptions of the web designers/developers in Greece and refers to the problems they are facing explains why such techniques as web log analysis are not utilized by them as their customer do not make these kinds of requests.

**Chapter Five** presents the results of the survey conducted aiming to examine local consumers' preferences and behavior related to eCommerce activity. The idea was to be able to compare the ideas, thoughts and opinions of company executives about eCommerce against those of consumers and see whether there is a gap to be bridged or not. Also, the results of the experiment that took place with a very small but rather representative number of individuals, not directly related to the information and communications technology, evaluating a small but representative number of the same web sites is also presented here.

**Chapter Six**, the conclusions and evaluation chapter, discusses the main outcomes of the study while suggesting possible solutions to the various problems of the Greek online community, both online businesses and (digital) consumers. It explains the implications of this study and proposes the necessary further research to be done in the near future in order to answer the questions raised by the newer development, progress and current standing of internet usage and eCommerce growth in the country. Finally, it is the place where the author attempts to truthfully point the problems faced during the study and refer to the things he would have done differently had he started all over again and based on the current standing of eCommerce in Greece



# Chapter 1: Introduction

## 1.1 Introduction

The Greek information society is believed to be growing rapidly and many different people with various backgrounds and professions, for example government officials, company managers, academics and end-users of all sorts, appear to be proud about the growth of internet access and eCommerce in Greece. Indeed, a number of surveys and studies on the subject conducted quite frequently, either annually, monthly or even weekly, by major local and international research and other institutions, either governmental or private, reported growth of internet usage to a level of about 20-25% (figure 1). The differences are explained by the fact that some of the surveys take into account usage in internet cafes and academic institutions whereas others just count the households and businesses of all sorts. Anyway, this has led experts and policy makers to the conclusion that the objective of establishing an information society of significant size has actually been achieved (Stamati, 2003; World Bank Group, 2003; Eurostat, 2007).

However, the same surveys showed that there is no significant progress towards the goal of establishing strong eCommerce activity<sup>i</sup> in the country. The relative figure only fluctuates around the 1% mark. This is a very poor performance considering that European eCommerce, both business to business and business to consumer has reached 4% in 2006 growing steadily from less than 1% in 2003 (figure 2). To make matters even worse, it seems that nothing has changed in this regard the past 4-5 years, i.e. for the period 2001-2006. Another qualitative element proving the low quality of the information society in the country is that only a little less than 3% of the households are connected to the internet through broadband connection, usually around 1Mbps, when the average of the European Union countries (EU-25) is 14.8% (Eurostat, 2007) at connection speed around 4Mbps or more. Only very recently, during the second half of year 2007, this has changed and the trend is to have internet service providers offering good prices for internet connectivity on broadband technology and a significant portion of the consumers reacting in a positive way.

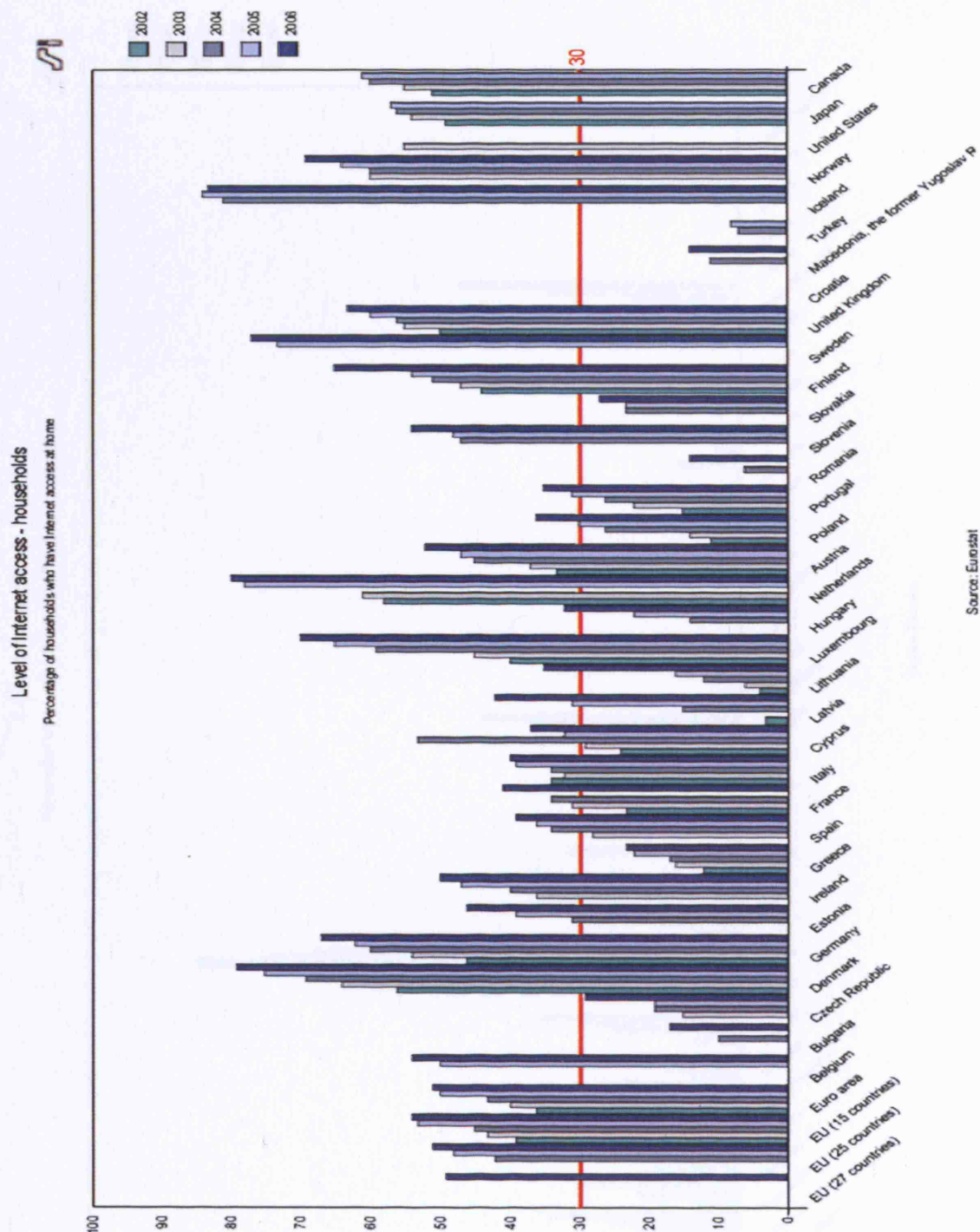
In light of this problematic situation, executives in governmental agencies and ministries launched several years ago (in the period 2001-2002) the [www.go-online.gr](http://www.go-online.gr), [---

<sup>i</sup> amount of sales through eCommerce over the total amount of sales](http://www.e-</a></p></div><div data-bbox=)

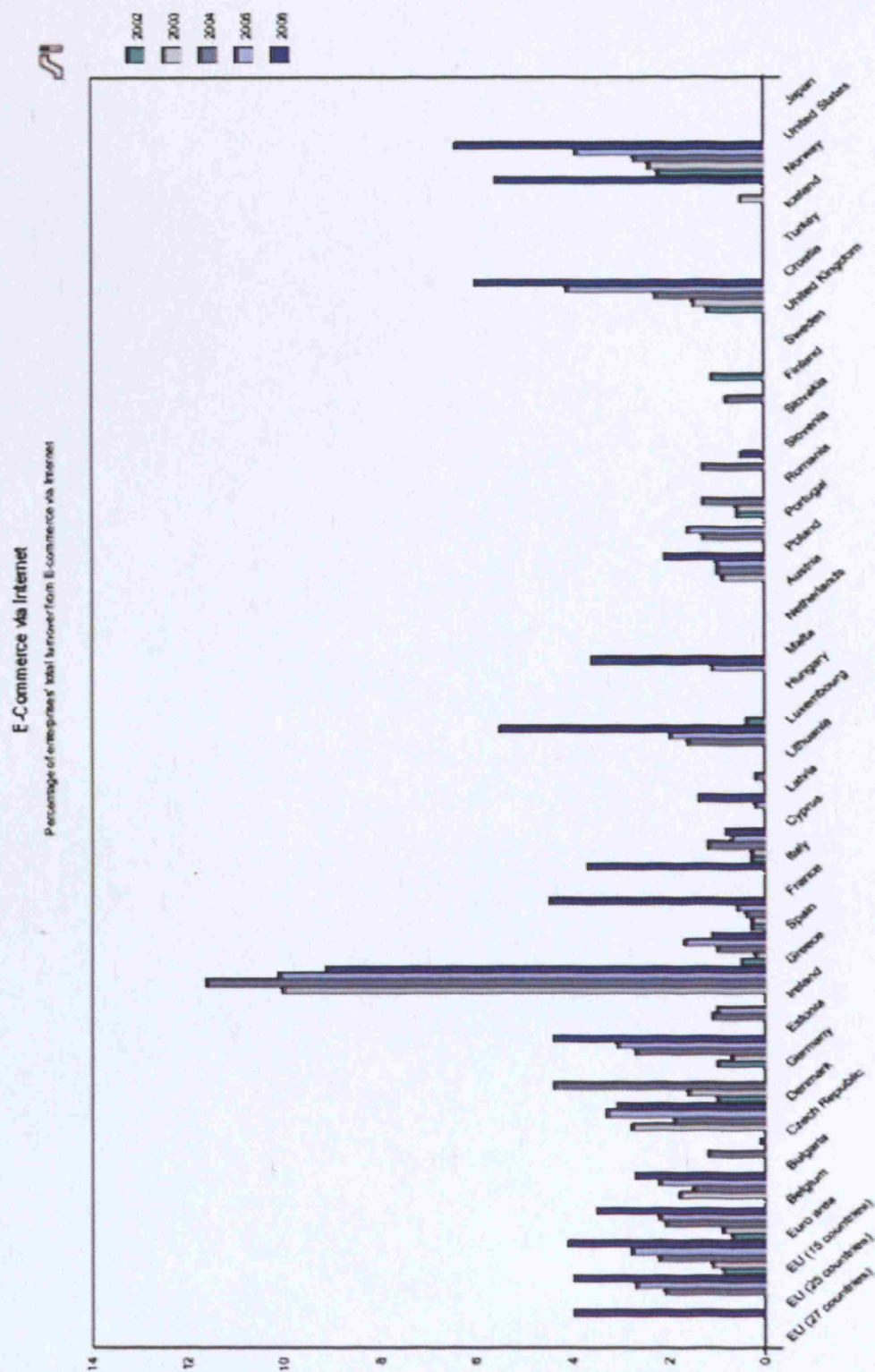
epixeireite.gr programs and took action towards significantly lowering the high prices of broadband connection in the country. Especially the first program ([www.go-online.gr](http://www.go-online.gr)) aimed at making a local information society of a very significant size through the promotion of the internet connection to the business people, mainly of small and to a lesser extend of medium size companies. The idea was to fund such business initiatives that “enrolled” the program with either 40% of the overall budget of purchasing a computer system, a printer, the relative software and getting the connection for a year or about 1,200 € whichever was less. Despite the fact the public funding towards the businesses entering the program was limited, the owners of the small businesses responded positively and the program helped in a way to promote the so-called digital world. The only problem was, and still is, the sometimes “everlasting” bureaucratic procedures which often discourage a large number of small business owners to become interested. The target was the 419,000 small businesses of every sector from a total of about 510,000 businesses in all. So far, that is by mid-2007 around 67,000 businesses are involved in the program. With this pace it will take almost 50 years! to meet the target.

The results of these initiatives, however, are not yet encouraging. As far as the businesses just a reported 16% of companies had a Web site even of lowest standards and only another 7% of the companies executives were planning to have one in the coming years 2005-2006 (eBusinessForum, 2004). As of the general population, the surveys showed that an amazing 73% of the people did not ever use the internet at all let alone engage in some sort of eCommerce activity (Eurostat, 2007).

There is a long way to go before the knowledge and use of the new web technologies leads to a substantial volume of eCommerce activity in the Greek digital market. This research was initiated by the need to examine eCommerce activity in Greece looking at its constituent elements meaning how business people understand it and how they develop their online strategies to and what the Greek digital consumers’ online preferences and behaviour are in relation to the aforementioned eCommerce practices and actions/activities.



**Figure 1:** Internet access level - Households: Percentage of households who have internet access at home. All forms of internet use included. The population considered is ages between the ranges 16 and 74 (Source: Eurostat 2007, [epp.eurostat.ec.europa.eu/](http://epp.eurostat.ec.europa.eu/)).



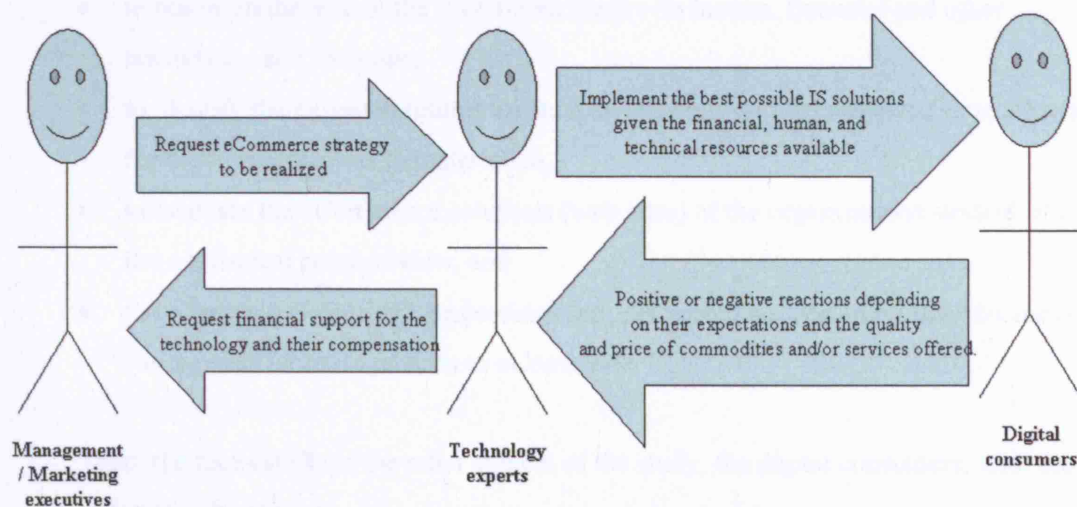
**Figure 2:** ECommerce via internet: Percentage of enterprises' total turnover from eCommerce via internet (Source: Eurostat, 2007 [epp.eurostat.ec.europa.eu/](http://epp.eurostat.ec.europa.eu/)).

The main idea behind this research, then, was to explain the reasons why eCommerce activity in the country is growing so slowly almost at a standstill. More specifically the author sought to find:

- If there is a difference between the local professionals' and experts' understanding and appreciation of the role of the internet and the web and the strategies to be followed in order to benefit from it and the difficulties and problems associated with its application,
- What is the quality of the eCommerce solutions (web sites) of the organizations studied, from a technical but also a consumer's point of view,
- Why Greek digital consumers do not commit to eCommerce transactions, i.e. purchase products or services over the internet and whether this phenomenon relates only to local businesses or if it is a general phenomenon applying to global businesses as well.

### 1.1.1 Aims and Objectives

The aim of this study is twofold. First, investigate and understand local professionals' and academics' attitudes and activities towards eCommerce. Second, examine the Greek digital consumers' online preferences, behaviour and feel towards the eCommerce solutions implemented by the companies and the organizations in the country. It will be achieved by means of both a digital consumer-centred approach and a business-centred one. This research will help business executives to bring the focus of their business strategies to the real central players of eCommerce, namely the digital consumers. It will also enlighten, hopefully, the decision makers of the country to take those corrective actions necessary to promote eCommerce in the country more effectively.



**Figure 3:** Actors and roles in the eCommerce chain of activities



The study focuses on two different categories of people, namely the business executives - particularly the management, marketing and technology experts - and the digital consumers (figure 3). Both play key roles in every eCommerce activity. On the one hand, the management, the marketing executives and the technology experts that constitute the first category play a decisive role as they form the strategies that need to be followed and allocate the financial, human and other resources to be invested for the realization of their eCommerce solution. The organizations' web sites should reflect these strategic decisions. On the other hand, the digital consumers – the second category - approve and support the eCommerce strategies followed by executing online transactions through the businesses' eCommerce solutions. They could be casual users surfing the Net and engaging in B2C (business to consumer) transactions or online auctions, or whole business entities involved in B2B (business to business). In either case, traces of the transactions may be stored in the transaction logs, which can be analyzed to extract valuable data concerning the digital consumers' preferences and behaviour while online.

As there are two different groups of people involved in the study consequently two sets of objectives to meet. Initially, the attributes and activities of the managers, the marketing executives and the technology experts and the way these materialize in their eCommerce solutions are examined, so that the research can explore the following objectives:

- to explain the role of eCommerce and the rationale behind the engagement of businesses in it according to the business executives,
- to evaluate the possible incentives, on the one hand, and obstacles, on the other, that support or block the decision to engage in eCommerce,
- to report on the size of the investment made – in human, financial and other resources – and its scope,
- to identify the expected returns on such investments and the projected time allowed for these expectations to materialize,
- to evaluate the eCommerce solutions (web sites) of the organizations studied, from the a technical point of view, and
- to understand executives' projections and, perhaps plans, regarding their business for the near future in relation to eCommerce.

Then, the focus shifts to the other subject of the study, the digital consumers, with the following objectives:

- to identify the reasons why Greek digital consumers do not commit to eCommerce transactions, i.e. purchase products or services over the internet,
- to explain whether this phenomenon relates only to local businesses or if it is a general phenomenon applying to global businesses as well,
- to suggest possible “incentives” by the businesses that could trigger positive reactions on the part of digital consumers, and
- to compare the results of the digital consumers’ evaluation of business web sites with those of the technology experts in order to identify possible differences.

The rationale behind adding the last objective is to find whether digital consumers evaluate a web site’s design the same way as technology experts or not. The experts are trained on a specific way of implementing what is thought of as a good web site without most of the times consulting the site’s visitors/users. Addressing this issue, i.e. whether consumers’ and experts’ understanding of a good web site match, might provide one more element to help understand the consumers’ abstinence from eCommerce activity in the country.

This study is important as it moves beyond the pattern of most others conducted locally, including the most recent ones of late 2007 ([www.ypan.gr](http://www.ypan.gr)), concerning eCommerce that focus on the spread of digital technologies, the communications and telecommunications infrastructure and pricing, and the basic usage of internet technologies by the users and/or the businesses locally. Once the dust of the impressions from the results yielded by the loads of quantitative surveys rests the whole discussion boils down to one key question: are digital consumers in Greece satisfied by the eCommerce solutions implemented by the businesses in the country? Or, put in the opposite way, how far or close are the business executives in meeting the preferences and behavioral patterns, if any, of the digital consumers through their online presence? Getting answers on these qualitative rather than quantitative issues from both parties and, then, analyzing and contrasting those is the key in answering this question and is the only path to understanding the problem of eCommerce stagnation in the country.

It is time in Greece to move beyond the “hype” of the internet technology and eCommerce basics to the more material and real life issues of what to expect from the utilization of these technologies and how to change consumers’ negative attitude towards it to a positive one.

## 1.2 Scope

The consumers representing the society and especially the digital ones<sup>ii</sup> and the business persons representing the business entities, put together, constitute the populations studied during the research. These are briefly explained in this section, however, it should be noted that the sample selection processes, the exact procedures followed and the specific duration for each partial study, the templates designed for the questionnaires/interviews as well as justification of those are not thoroughly detailed until later in the methodology chapter.

### 1.2.1 The (digital) consumers

The various local surveys (TNS Icap, 2006; VPRC, 2005) conducted and published in the country over the period 2000-2006 as well as the public announcements of the related ministries like the ministries of labour ([www.labor-ministry.gr](http://www.labor-ministry.gr)), economy ([www.mnec.gr](http://www.mnec.gr)) and development ([www.ypan.gr](http://www.ypan.gr)) identified two different types of internet users. First, young people aged between 16 and 30 years old who constitute by far the larger body of the country's online population. These are individuals who although more familiar and comfortable with internet technologies are less likely to engage in eCommerce transactions as they are seldom credit-card holders, usually a prerequisite for online transactions. Second, individuals aged between 30 and 50, the working force of the country. They are far more expected to engage in eCommerce activity, as they have the financial ability and are quite often credit card holders, if they are comfortable with the digital technologies which is not a given in these ages.

As of the individuals aged more than 50 years old, the same surveys showed the vast majority of them not only are not interesting in the internet technology and its applications including eCommerce but even more they are not quite comfortable with the information and telecommunications technology overall with the exception maybe of the use of mobile communications devices. Furthermore they seem to be reluctant in getting credit cards or other forms of plastic money which is central to engaging to eCommerce activity.

The study involved all three types of people mentioned above and took place in those places where the above individuals usually gather during the time period between December '05 and March '06. Hence, vocational institutions, colleges and universities, work places and markets, sports (or other types of recreation) clubs and café and even

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<sup>ii</sup> Digital consumers: those consumers that often use the internet technology to make an online transaction



religious places were visited for this purpose. The goal, as explained in the Methodology chapter, was to have a sample as representative as possible and it was achieved to a great extent.

### **1.2.2 The business executives**

A number of executives from different backgrounds are involved either directly by making the decisions, or indirectly by influencing, advising, or leading the decision makers, during the process of forming a company's eCommerce strategy. This is because there are many different issues that must be addressed during the implementation of an eCommerce solution of a medium-large business entity, most of which are, indeed, not technical to start with. Concepts such as internet security for online transactions, or online privacy in connection to the need to provide customized content, or the general design of a web site such as the selection of colours, images and fonts appropriate for different regions of the globe, are mainly the concern of professionals from other backgrounds, e.g. lawyers, sociologists, ethnologists, artists, designers, etc.

For the purpose of this study, however, only three different types of executives were considered, namely the management, marketing and information and communication technology experts. They play a key role during the decision-making, design and development process of eCommerce solutions. The management group of individuals are more likely to have a comprehensive knowledge and understanding of the legal and ethical environment in which their organization operates or the ability to assimilate the relevant opinions from the experts in their fields. The marketing professionals are expected to be aware of all the artistic, sociological and ethnological details prevailing in the country and to ensure that an optimum strategy in reaching potential customers is applied. The information and communication technology (ICT) experts are those that will materialize the strategies into an eCommerce solution taking into account the features requested mainly by the two executives mentioned earlier and the resources available.

During this part of the study, which took place between October '04 and February '05, special care was given towards having one individual from each of the three aforementioned types, i.e. management executives, marketing and technology experts interviewed. This was not always possible for reasons that are explained in the appropriate methodology chapter. Emphasis was also given to the rank of each person, that it be as high as possible. The reason is that the lower level employees do not usually form strategies but merely work to realize them. Therefore, interviewing them would

only greatly inflate the quantity of the results, multiplying them by the number of employees without changing the quality of the results, which is the study's main objective.

### **1.2.3 The companies examined**

Mainly medium-sized and/or large companies and corporations were considered for the study, the reason being that this is the way the business environment in Greece is shaped. Although the number of small businesses - up to 10 employees - and the number of freelancers comprise the vast majority of more than 95% of the business world (eBusinessForum, 2004) which would suggest they play the key role in forming the commercial and industrial environment in Greece, the reality is quite different. Mr Vlachogiannis, the Computer Sales and Management Director of TIM Hellas - one of the largest Mobile Communication providers in Greece - expressed this clearly (V. Vassilis, personal communication, January 2005):

*"...In other words the vast majority of the companies are small or personal and they are not financially strong, neither are they organized enough to demand their rights as the main driver of the Greek economy. Thus, they do not really influence political and other decisions. This task is left to the executives of the very few but powerful large companies who make decisions that affect all businesses in Greece whether small or large."*

It is reasonable, then, to suggest that discussion of the relevant matters with the executives of these large companies is the correct path to find opinions, beliefs, and perceptions about eCommerce in Greece. Only then may a broader picture be drawn in which all businesses, no matter how small or large, operate in. With this given, a serious attempt was made to have a sample as representative of the companies as possible even if by default, due to time limitations, its size could not be as large as it would be desired. In order to succeed in selecting the proper sample the categorization of companies in 15 sectors (Table 1.1) closely followed by many European research and statistical bodies was adopted (e-business w@tch, 2003) with only minor of variations that reflect the particularities of the local business environment.

### **1.2.4 The web sites**

The businesses' web sites are the virtual places where the online businesses' strategies, followed and implemented by the eCommerce professionals, meet with the real digital consumers' preferences and behavior towards eCommerce. Therefore, they are also considered as an object to be studied like the business professionals and the (digital) consumers. Furthermore, as they constitute what could be thought of as entities

themselves they are evaluated quite thoroughly from a technical viewpoint but also experimentally (for reasons explained in a later chapter) from a digital consumer perspective as well since both perspectives are part of the general study. Once again, for the same reasons explained earlier, the sample of the web sites involved only the medium-large companies and organizations of the private or public sector.

Table 1.1: Main sectors of the Greek economy, 2003
1. Food, beverages and tobacco industry
2. Chemical industries
3. Transport equipment manufacturing
4. Financial sector
5. Insurance and pension funding services
6. IT services
7. Communications and Telecommunications Services
8. Health and social services
9. Media and printing (newspapers)
10. Metal/machinery manufacturing – Mineral and Cement
11. Education
12. Retail
13. Tourism
14. Government
15. Business services

**Table 1.1:** Main sectors of Greek economy, 2003

An effort was made to have a sample as representative as possible of companies based on the sectors listed in table 1.1 which, however, was a superset of the one used for the interviews of the executives. In the case of the evaluation from a technical viewpoint the resulting sample was quite satisfactory in size as there were no particular reasons, e.g. time constraints, for serious compromises. The time period during which this part of the research took place was between May '05 and June '05. In the case of the non-technical consumers' evaluation the sample of the web sites was rather small due to time constraints and the respective part of the study may only be justified as experimental. The time period during which this part of the research took place was between May '06 and June '06.

As of the actual evaluation there are a significant number of different issues to take into account when evaluating a web site. A good number of studies were initiated on this subject from various academic and professional institutions worldwide such as the Iowa

University (Iowa University, 1999), the California State University at Sacramento (California State University, 2002) and the University of California at Berkeley (University of California, Berkeley, 2002) to name just a few. A synthesis of the results of these studies – and many more, which are presented in the literature review chapter - provides a rather comprehensive and quite long list of the features and/or functionality that a well-designed and developed web site should include. For practical reasons it was decided that a categorization of these features and/or functionality would help for the evaluation of the web sites. Indeed, it was found, while studying the results of the aforementioned research, that all these features and/or characteristics could be grouped into four categories.

The first one, named “web site design and layout” in this research, is the one which includes the most issues addressed. Any feature or functionality that affects the appearance and usability, thus making the site more attractive to the users and more user-friendly belongs here. The list of these features is rather long and includes such elements as hyperlink placement and attributes, site maps, interface design, etc. It includes questions, to be listed and explained in the appropriate chapter, quite easy to answer not only by technical experts but by casual internet users as well since they don’t require any advanced technical information.

The second category questions address issues related to “globalization and customization”. They evaluate whether a web site is implemented in a way that makes it useful, informative, and readable by populations in different countries and even geographic regions (globalization) and/or allows individual users to customize its layout or its content or both (customization/personalization). Apparently the nature of the questions becomes considerably more technical as the sites successfully addressing the aforementioned issues are more sophisticated than those concerned only with the features of the first category.

Then it’s the turn for the categories with the highly technical elements to be evaluated. The “accessibility, availability and hard/software requirements” questions point to a web site’s built-in functionality to make it accessible by individuals with various disability problems as well as a web site’s independence of and availability through different operating systems, on various electronic devices with as few hard/software requirements as possible. The “security and privacy” questions investigate whether a web site implements built-in mechanisms that ensure (as much as that is possible) the security of any possible transaction and the privacy of its users.

The idea behind this evaluation of the Greek web sites was not only to examine the quality of the web sites from a technical viewpoint but also to compare the preferences, behaviour and feelings of different types of digital consumers with those of the information and communication experts in the country.

### **1.3 Limitations**

Before moving forward to the elements of the study it would help to note a few limitations that led to the need for compromises as far as the methodologies followed. First, this study does not examine all businesses and organizations in Greece, private or public, but only a representative sample of those of a medium or large size (more about sampling in the Methodology Chapter 3). It may only be assumed that the results of the study on these sampled companies should most likely be quite optimistic for the case of smaller companies. This is suggested mainly due to additional limitations small company owners' are facing in terms of resources, financial, human or other.

Second, only three high-ranking executives per company were interviewed during the study. There are two concerns about this approach. The first is that it is possible, and indeed it was the experience in a few cases, that a single person made all the decisions with the rest of the employees, no matter how highly ranked, following specific directions. The second is that it could be argued that no matter how experienced the decision makers are no one can possibly tell whether lower-level employees are skilled enough to carry out the strategies decided by their managers. This leads to the conclusion that since the interviewing process only involved the professionals from three different backgrounds it is not possible to monitor and understand the process but only look at the strategies formed and assume they are followed by middle management and low level employees.

Third, evident in every other similar study worldwide (McManis *et al*, 2001), is the number of web sites under evaluation. Although this number (232) is quite significant if not rather large, but compared to the overall number of web sites (the Greek ones in particular) it is small. Furthermore, despite the fact that the template used is quite satisfactory and received good critiques/reviews/feedback from academics and professionals in two international conferences (Xanthidis and Nicholas, 2005; Xanthidis and Nicholas, 2006), it is, still, by no means a comprehensive one. Actually, as stated in an earlier section, there are so many different professionals who come from different backgrounds and are directly or indirectly involved in the design of a "good" web site,

that it would be quite challenging (but not unrealistic) to design a template to satisfy everyone as the scientific and artistic suggestions are, often, contradicting.

## **1.4 Background: description of the local information society and business environment**

In order to better understand, later on, the executives' attitude towards eCommerce it is essential to have a view of the business environment they operate in. The main characteristics of this environment make up an important factor that influences any strategic decision they make and follow. It could be argued that it is, perhaps, as important as the behavioral patterns and preferences of the individuals that populate the information society in the country. On the other hand, it is also necessary to have a clear idea of the characteristics of the information society population, from now on to be called digital consumers in this study. The reason is that mainly they purchase or hire products or services online and, hence, they are the ones who drive what is referred to as eCommerce growth.

### **1.4.1 Internet usage and eCommerce activity**

Figure 58 (see Appendix A) illustrates the global penetration of the internet by 2004 and places Greece (circled on the map in figure 58 appendix A) in that global internet environment. The results of this Ciber<sup>iii</sup> study comparing the level of internet penetration in the country with other regions have shown a few interesting facts. Greece is a European Union country with a population of around 11.5 million people and an average GNP per capita of about €15,800. After a late and slow start up, the population of Internet users has emerged from virtually nothing to an estimated number of 2.5 million users in early 2004 and was expected to reach 3 million users by the end of 2006, an internet penetration of about 25 per cent; the goal was generally achieved as noted earlier in this chapter (Xanthidis and Nicholas, 2004).

The map in figure 57 (see Appendix A) clearly shows that Greece belongs to the group of countries with a significant, in terms of size, information society (category of more than 10%). This could be considered an achievement but it was mainly the result of the Greek Governments' various initiatives, incorporated into the Community Support Framework III a €2.8 billion Operational Programme for the Information Society, of which €1.7 billion has been funded by the EU (Economist Intelligence Unit, 2002) to promote internet usage and eCommerce activity in Greece.

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<sup>iii</sup> Ciber: Centre for Information Behaviour and the Evaluation of Research, UCL

The online population is quite significant although considerably lower compared to the other E.U countries' statistics and developed countries' levels of penetration. It consists mainly of teachers, youngsters, academics and professionals (TNS Icap, 2006). A large and healthy (as far as income goes) part of the population, i.e. the work force, is still far from getting involved and utilizing the new technology and eCommerce. Specific education and/or training policies are needed to bring these people closer to the digital world.

Especially in the case of youngsters or young adults (up to 35 years old), it should be noted that they are not financially very strong, most of them have an average education (mainly a university or vocational institution degree), are not very affluent to computer technology, and most of them not good English speakers and readers. All the above seem to affect their attitude towards eCommerce activity in a negative way despite the fact that they use internet for other things and mainly for emailing, chatting, peer to peer (P2P) sharing and the like.

#### **1.4.2 The local business environment**

Undoubtedly, the intentions of a company's shareholders and executives to invest are directly related to its financial strength at a certain point in time, the legal framework of its operations and, perhaps, the presence of government incentives.

Table 1.2 illustrates the huge loss of monetary strength of 12 of the major companies in the Greek technology sector back in 2000. Indeed, the statistics are remarkable: Infoquest, Pouliadis and Altec are the largest wholesalers of computer parts and three of the largest practitioners of eCommerce in Greece; Delta Singular, Intersat and Logic DIS are major software solutions providers, including eCommerce; Kotsovolos, Radio Korasidi, Microland Computers and Multirama are among the largest retailers of personal computers and computer parts.

To make matters worse, even OTE, the public owned PSTN/Telecommunications infrastructure company in Greece, experienced very significant financial losses for the first time in ten years (2006). That being the situation, one should not be surprised that the private sector was unable not only to drive eCommerce ventures but even to invest in the new technologies until very recently, that is the past year 2007. Thus, although the technology was available to these companies there was not enough financial and or monetary power (and intentions) to make it available to the public at a reasonably low cost until mid-2007. Indeed, only very recently the public and private Internet Service

Providers ([www.otenet.gr](http://www.otenet.gr), [www.forthnet.gr](http://www.forthnet.gr), etc.) have started offering ADSL lines at reasonable prices lower than 30€/month. Even now, though, the prices are still considerably higher than the European Union average for half (or even less) the connection speed offered in most of these countries.

<b>Table 1.2: Stock prices (in €) with greatest decrease after 2000 parliamentary elections in Greece. Source: Athens Stock Exchange</b>			
<b>Stock name</b>	<b>7 March 2000</b>	<b>8 March 2002</b>	<b>30 May 2003</b>
Multirama, S.A. (Co)	146,74	3,96	3,12
Microland, Computers (Co)	21,50	1,43	0,46
DATAMEDIA (Co)	23,48	2,18	0,38
ALTEC (Co)	17,36	1,83	0,61
Radio Korasidi (Co)	27,25	3,62	1,36
LogicDIS S.A. (Co)	12,90	1,85	0,74
Free TV (Co)	23,48	3,42	1,61
Kotsovolos A.E.V.E.	24,93	3,64	2,44
Intersat (Co)	7,81	1,20	0,23
Pouliadis (Co)	18,55	2,92	1,00
Delta Singular (Co)	19,51	3,12	1,74
INFOQUEST A.E.B.E. (Co)	19,49	3,28	1,11

**Table 1.2:** Stock prices (in €) with greatest decrease after 2000 parliamentary elections in Greece. Source: Athens Stock Exchange

The Government, responsible for laying down the framework of laws, regulations, policies and incentive programmes to promote internet usage and eCommerce activities, is not helping much. In Greece, all governments during the period 2000-2005 were very active in attempting to give strong financial incentives to people willing to start new businesses, especially in technology and information systems and the internet sector and also to companies planning to engage in eCommerce in order to integrate it into their overall business practices. These attempts, though, were not as successful as their originators envisaged.

One such incentive was (still is) the "go-online" programme designed by the Greek Ministry of Development in collaboration with the Ministry of Economics (source: [www.ypan.gr](http://www.ypan.gr)). It provides 40 per cent funding or €1,200.00 (whichever is less) of a company's expenses towards buying the necessary equipment and paying a local internet service provider the connection fees in order to establish an internet connection



(source: [www.go-online.gr](http://www.go-online.gr)). It is one of the programmes funded by the Community Support Framework III of the EU. The goal of the programme was to familiarize the personnel of 50,000 SMEs (small or medium enterprises), from a total of around 490,000 in Greece, with the new technologies by the year 2005.

Until January 2005 ([www.go-online.gr](http://www.go-online.gr)) 67,108 businesses participate in the programme and about 29,795 company employees have been trained. When the people who completed successfully the programme were asked about their intentions as to the use of the information and communications technology (ICT) purchased, 99% mentioned the use of e-mail, 84% information and news, 65% transactions with government agencies, 47.9% online banking and related services, and less than 40% eCommerce related issues. This was despite the fact that 55% of them were familiar with the basic eCommerce terminology i.e. e-marketplaces, online auctions, m-commerce, enterprise resource planning (ERP), etc. Also, 59% of the business owners/managers purchased simple dial-up services from the internet service providers (ISPs), 41% purchased ISDN at 64 kbps or 128 kbps and very few (less than 1%) any form of DSL lines (source: [www.go-online.gr](http://www.go-online.gr)).

Although no one can tell with certainty, the author believes there are two reasons for this very low interest, both in terms of quality and quantity, of the information and communications technology purchased. First, the programme is limited by its very small investment (up to €1,760 for the purchase of a PC, its software and internet connection costs for two years) and only covers 40% of this investment at most. Obviously this is not a satisfactory figure as it would take at least €3,000 for the smallest company to buy an automated system and ISDN at 64 kbps connection for two years. The second reason, as readily admitted by the people that designed and run the programme, is the bureaucracy the businesses are faced with during application, admission and realization of the programme, which puts many managers off or makes them regret their involvement.

A second, also not as successful as expected, incentive programme for businesses willing to engage in eCommerce is called “e-epixeireite” (freely translated as “do business electronically”). Its objective is to promote eCommerce activities as a way of doing business. All interested companies that are selected are divided into four categories:

- install and operate ERP (Enterprise Resource Planning) systems for the integration of their business procedures;

- install and operate information systems based on the ASP (Application Service Providers) model;
- install and operate eCommerce and/or eBusiness applications;
- create, manage and deliver e-content in any form including e-books.

(Source: [www.e-epixeireite.gr](http://www.e-epixeireite.gr)).

In the next chapter, the Literature Review, the international paradigm as of the use of the internet technology towards the growth of eCommerce and, subsequently, the advent of the digital economy in the developed countries is presented in detail.

# Chapter 2: Literature Review

## 2.1 Introduction

This chapter is divided into five parts. The first presents and explains those indicators/factors/parameters that direct and affect digital economy growth. It then provides a picture of the internet usage (internet penetration) worldwide and places Greece in that global context. It informs about the current standing of internet usage and eCommerce growth in Greece in comparison to the more advanced digital economies of the globe and the other EU countries. It also discusses the various problems faced in the Greek digital market in an attempt to explain the reasons behind them.

The second part presents opinions from executives and experts worldwide concerning such issues as the rationale behind the decision to engage in eCommerce as well as its role in business planning. It describes and explains the stages an eCommerce solution may go through and the associated costs. Finally, the need to follow a strategy for eCommerce is underlined and supported by renowned scholars, scientists and professionals. This part is quite important because it helps the reader understand in a deeper way the idea of the digital economy, as it was conceptualized, by the very people that either were the ones who developed and first realized it or the ones who tried it first and succeeded or failed. The goal is to find, later on, if and to what extent this international knowledge and understanding of eCommerce issues is shared and accepted/adopted by Greek executives.

The third part delves into technical aspects of eCommerce implementation standards as they are set by experts around the world. Issues such as stickiness, customization and globalization, accessibility and availability, security and privacy are explained, described and analyzed based on the international literature. Such a consideration was necessary in order to enable the author to design the web site evaluation template, to be introduced later in the Methodology chapter (chapter 3), that was used to see if these standards are followed during the development of eCommerce sites by the businesses in the country and appreciated by local consumers.

In the fourth part, the author provides a detailed description of the issues and concerns related to consumer behavior. After all, they are the ones who, eventually, have the first and last say before any online transaction takes place and, hence, they should be behind every business plan. Two main categories of factors affecting that behavior are

analyzed. The first, the demographic category, includes such factors as age, gender, education, income level of the consumers and the average time of internet use. The second, the non-consumer related category, includes the brand name, the nature and the price of the product as well as the online information and its presentation in respect to the product and the trust from the consumer's part in the financial organization that supports the transactions between the seller and the buyers.

Finally, in the fifth part, the methodology of web log analysis for processing the statistical data generated by the web servers is presented and the related terminology is briefly explained. The main features of some of the relevant commercial software applications available are described and the way they report the statistical results is illustrated. On the other hand, counter arguments as of the problems associated with the methodology are also presented. Although it was not feasible to proceed with a web log analysis of local businesses' web sites, for reasons explained in the methodology chapter (chapter 3), but it was thought as important to have a review of the relevant literature just to stress, in the Findings (chapter 4), the lack of utilization of the particular methodology as a safe means to understand and correspond to digital consumers' online behavior. This review was, also, used to interpret web designers' understanding of the reasons behind such low levels of eCommerce activity in Greece.

The terms used to review the international literature in relation to the various aspects of this study were, basically, the issues to be addressed themselves as noted earlier in this section. The research was done mostly through various well-known and credible publication houses including Emerald and Blackwel. The only exception was the need to find sources and data related to Greece in which case some articles from well respected online newspapers were although visited.

## **2.2 Internet usage & eCommerce growth in Greece compared to the digital economies**

### **2.2.1 Indicators of Readiness**

A careful reading of the literature related to eCommerce worldwide points to four drivers, also called "indicators of readiness", that direct and affect digital consumer growth (eBusiness-w@tch, 2003). They are the technological, financial, legal, and socio-economical indicators of readiness. Concerning the technology it must be available at affordable prices, quick to learn, with eCommerce practice a convenient alternative to the traditional way of doing business with a real value in terms of time,

money and labour savings. ISPs should be able to guarantee a stable and efficient technological infrastructure, accessible in a variety of settings and places (Mercer Consulting cited at Chaudhury and Kuilboer, 2002, pp. 8-10).

Table 2.1: Countries with highest internet penetration (more than 50%) (Sources: Internet World Stats, 2007; Global-Reach, 2004; Nielsen/Netratings, 2002; Ecoworld, 2002)				
Country	Pop. (000s) (est. '06)	Internet use (%) est. '06 ('03)	GNI per capita (\$) est. '04 ('02)	Internet use Growth (00-05)
New Zealand	4,195	76.3 (55.0)	20,310 (16,000)	285.5%
Iceland	297	75.9	38,620	34.3%
Sweden	9,076	74.9 (65.0)	35,770 (26,000)	68.0%
Denmark	5,425	69.4 (61.0)	40,650 (33,000)	92.9%
Hong Kong	7,054	69.2 (70.0)	26,810 (23,660)	113.7%
U.S.A.	299,093	68.6 (63.0)	41,400 (26,000)	113.8%
Australia	20,750	68.4 (60.0)	21,650 (19,522)	115.0%
Canada	32,251	67.9 (65.0)	28,390 (19,350)	72.4%
Norway	4,632	67.8 (56.0)	52,030 (34,300)	42.7%
Singapore	3,601	67.2 (85.0)	24,220 (30,170)	101.8%
Japan	128,389	67.2 (41.0)	37,180 (40,846)	83.3%
S. Korea	50,633	67.0 (53.0)	13,980 (10,142)	78.0%
Switzerland	7,488	66.0 (47.0)	48,230 (41,900)	131.7%
Netherlands	16,386	65.9 (60.0)	31,750 (25,572)	177.1%
UK	60,139	62.9 (53.0)	33,940 (19,040)	145.5%
Finland	5,260	62.5 (48.0)	32,790 (24,500)	70.5%
Taiwan	22,896	60.3	13,392	120.4%
Germany	82,515	59.0	30,120	103.0%
Luxembourg	459	58.9	56,230	170.8%
Portugal	10,501	58.0	14,350	143.6%
Austria	8,188	56.8 (43.0)	32,300 (29,000)	121.4%
Ireland	4,065	50.7	34,280	162.8%
Estonia	1,339	50.0	7,010	82.8%
<b>GREECE</b>	<b>11,275</b>	<b>33.7 (28.0)</b>	<b>16,610</b>	<b>280.0%</b>

**Table 2.1:** Countries with highest internet penetration (more than 50%)

Then, the private sector should have the financial ability to invest in new technologies, either in the form of ISPs or as businesses engaging in any form of eCommerce. IT layoffs from dot.coms or similar companies indicating eCommerce shakeout and downturn (Regan, 2002a), the shift towards IS departments staffed with less Internet specialists and more “all-around” IT experts (Regan, 2002b) and the rise or fall of a company’s shares’ price (eBusiness-w@tch, 2003) are among the financial indicators, It is the responsibility of the local government to produce the legal framework in which eCommerce practices can be conducted. There are countries in which the laws or the traditions, either social or religious, forbid or somehow restrict the use of the Internet and the Web (Iran Blocks Thousands of Web Sites, 2003). An explanation for such negative attitudes and practices could be the fear of inappropriate content on many Web pages (Away from the Internet the Arab World, 2002). On the other hand, advanced economies such as the UK, the US and others prefer to regulate Internet usage and eCommerce instead. Such government decisions and policies constitute the legal indicators of readiness for the specific country.

Last but not least the socio-economic factors such as personal income, as table 2.1 suggests, play an important role towards internet penetration and eCommerce growth. A US Department of Commerce report dated July 1999 (Deitel and Deitel, 2001) indicated that households with incomes of \$75,000 or higher were 20 times more likely to have Internet access than those of lower incomes. Meanwhile, surveys in the Sub-Saharan countries report extremely high average levels of male/female illiteracy, 32% and 50% respectively, with less than 1 PC per 1,000 people and less than 1% Internet penetration with the exception of very few countries (see Map 1) (Global-Reach, 2003; Nielsen/Netratings, 2002; Ecoworld, 2002).

### **2.2.2. The global map of Internet usage**

The world, no doubt, is moving towards the digital age. Figure 57 (appendix A) illustrates the diffusion of internet usage around the world in 2003. When compared to figure 58 (appendix A) which shows the internet world map in March 2006, the conclusion is easy to draw. Whole populations of tens if not hundreds of millions of internet users are added every year especially in countries not many would expect just a few of years ago, like China, India, several Arab countries, South American countries and even others in Sub-Saharan Africa. The “digital divide” (Deitel and Deitel, 2001) still exists in quite a few countries, especially in Africa, but it seems to be considerably “bridged” in many others.

### 2.2.3. Greek internet usage in the global context

Greece (circled on the map in figure 58 in appendix A) is an E.U. (European Union) country with a population of around 11 million people and an estimated average GNP per capita of €20,100 (Internet World Stats, 2007). After a late and slow start up, the population of Internet users has emerged from virtually nothing to an estimated 3.3 million users in early 2006 inclusive of households connected to the internet and other users through internet cafes, universities, etc. This 33.7% of internet penetration – which some believe to be considerably lower at 25% (Eurostat, 2005) if only households are counted - was achieved in part by the Greek Government, which provided businesses all kinds of incentives to connect to the internet in order to reach the E.U. average internet penetration levels estimated to 49.8% (Internet World Stats, 2004).

Table 2.2: European Countries' Internet penetration (2000-2002 and 2006) (Sources: Taylor Sofres Interactive, Eurostat ( <a href="http://www.eurostat.com">www.eurostat.com</a> ), internet world stats 2004)				
Country	2000	2001	2002	2006
Hungary		12	10	30.3
Latvia		13	17	35.3
Lithuania		9	18	28.3
Poland		15	18	27.8
Slovak Rep.			24	42.3
Czech Rep.	22	26	28	49.9
Spain	18	26	29	38.7
France	26	33	34	43.0
UK	27	34	38	62.9
Italy	17	30	38	48.8
Estonia		33	39	50.0
Germany	28	36	42	59.0
Belgium	28	33	44	48.7
Ireland		39	46	50.7
Norway	56	63	58	67.8
Finland		45	59	62.5
Netherlands	46	52	61	65.9
Denmark	54	62	63	69.4
<b>Greece</b>	<b>6</b>	<b>13</b>	<b>19</b>	<b>33.7</b>
<b>EU (Average)</b>	<b>23</b>	<b>30</b>	<b>46</b>	<b>49.8</b>

**Table 2.2** European countries' internet penetration (2000-2002 and 2006)

Although the numbers look promising, a closer look at the situation creates some grounds for concern. Internet penetration in Greece is at higher levels when compared with the geographically neighbouring countries which, however, had gone through serious socio- economic and political turmoil, even civil war, very recently. Turkey reports a 13.7% despite its weak economy, socio-political turmoil over the past two decades, very low reported personal income and the Muslim character of the country (Away from the Internet the Arab World, 2002). Serbia quickly achieved a 14.2% after a disastrous civil war four years ago which destroyed much of its infrastructure including telecommunications. Bulgaria and Romania both went through political and economic reform but, again, achieved significant levels of 28.5% and 23.2% internet penetration respectively in a relatively short time. The Former Yugoslavian Republic of Macedonia (FYROM), a still rather politically unstable country, reports a 19.2% internet penetration (Internet World Stats, 2004). These figures indicate that once a proper telecommunications infrastructure is in place and political stability is established, then it is only a short time before the digital economy emerges regardless of remaining of the problems a community may be facing.

However, Greece is one of the first members of the European Union and should be compared with the other EU-10 or EU-15 countries. In doing so, one can see quite clearly that internet usage in Greece did not grow faster than even the average of the EU-10 or even EU-15 countries, not to mention the more advanced EU digital economies such as Denmark and the UK which experienced an even more rapid growth (Table 2.2).

A preliminary study by Ciber (Xanthidis and Nicholas, 2004), which was conducted to form the basis of this research, came up with a number of conclusions as to the real situation of internet usage in the country. The first was that the growth in internet penetration in Greece is more the result of the Government's various initiatives taken to promote internet usage and eCommerce growth than the public's appreciation of the internet and web as an efficient media for conducting business transactions. Indeed, the Greek Government incorporated into the Community Support Framework III a €2.8 billion Operational Programme for the Information Society, of which €1.7 billion is provided by the EU (Economist Intelligence Unit, 2002).

It is estimated that only about 63% of internet users are subscribers connected at home, although other sources (How Much do we Use..., 2003) suggest significantly lower numbers of about 35%. Another 37% are connected at work, 19% at school or



college/university and 11% at internet cafes (VPRC, 2003). In a later section (Internet users/Digital Consumers' behaviour) it is shown that just 1.5% of this population connects to the internet to engage in buying goods or services, eBanking, or other eCommerce activities. This could be read as a lack of interest on the part of internet users in the online services offered by companies engaging in eCommerce.

Despite continuous government spending since 1998 and the various incentives provided to Greek SMEs and even large enterprises (covered in the next section) eCommerce activity, i.e. Business to Business (B2B), Business to Consumer (B2C) and even eBanking is still disappointingly low and estimated at about 0.6% of total commercial activity compared to around 6.0% in the Western EU countries (Global-Reach, 2004).

#### **2.2.4. Reasons for the relatively low internet usage and nonexistent eCommerce activity**

There is no doubt that, despite growing numbers, internet usage in Greece has not grown yet to the levels expected based on the relative experience in other EU-15 countries and the US, and eCommerce is "yet to arrive" in the country. In seeking to explain the reasons behind this it is wise to return to the four drivers, i.e. technological infrastructure, the private sector, framework of laws, and digital consumers' behaviour.

As far as the *technological infrastructure available* there are a number of Internet Service Providers (ISPs) in Greece, e.g. Otenet (the public internet service provider ISP and public switch telephone network PSTN carrier), Forthnet, Vivodi, Vodafone, Wind, Telepassport, and other smaller ones. However, only since very recently the internet connection pricing schemes offered by the local providers became reasonable enough to attract households' attention. Starting early 2006 to be more specific, the internet platform become reasonably priced for the average income household (around €1,600 per family) if the user wanted an efficient operation available, e.g. around €30 per month for a Digital Subscriber Line (DSL) at 1 Mbps. At the moment (December 2007) the internet service providers offer packages at prices of about €18 per month exclusive of telephony costs. These prices are far better than the €140! a month just 3-4 years ago (2002-2005) for the same connection speeds and constantly improving thus giving promises that the EU average of internet connection pricing will soon be reached.

Concerning *private sector's investing power* only recently have the major companies in the Greek technology sector proceeded to make internet technology-related investments

and started promotion campaign of their products at reasonable costs. This was almost 5 years after the huge monetary losses they suffered during the 1999-2000 Athens Stock Exchange shakedown (Xanthidis and Nicholas, 2004). That shakedown, as explained in the Introduction chapter brought the large technology related companies (and others) to their knees in terms of their ability to support significant financial investments in information technology and towards the digital economy.

When looking carefully to the various *government initiatives and incentives to businesses* it is clear that in Greece, all governments during the period 2000-2006 have been very active. They all attempted to provide strong financial motives to those people willing to start new businesses, especially in the technology, information systems and internet sector and also to companies planning to engage in eCommerce in order to integrate it into their overall business practices. The so-called incentive programs, namely “go-online” ([www.go-online.gr](http://www.go-online.gr)) and “e-epixeirite” ([www.e-epixeirite.gr](http://www.e-epixeirite.gr)) (source: [www.ypan.gr](http://www.ypan.gr)), though, have not been as successful as their originators envisaged as explained in the previous chapter.

Finally, as far as *internet users/digital consumers' behaviour* statistics identify a large group of 50% of youngsters aged 15-24 years, who are familiar and comfortable with the new technologies. It is only reasonable to expect that as they leave tertiary education behind them to enter the country's work force and become financially independent they will drive eCommerce in Greece to much higher levels. Further development of the Greek economy and improvements in the average personal income will also help towards this goal. However, the author believes that unless the group of those individuals aged 25-54 who use the internet technology becomes larger (currently only 20% of their population is familiar and/or uses it) eCommerce will not grow significantly during the next few years (VPRC, 2005).

The more informed Greek residents become about the value of the internet and web, the more they will use it and the number of internet users will increase. The only question is how eCommerce activity will start growing in the country and what steps all involved parties must make towards that goal.

## **2.3 Experts' opinion about eCommerce**

### **2.3.1 The need to follow eCommerce strategy**

There is a general agreement about the necessity for a company to engage in eCommerce, i.e. “conducting of business activities using the internet platform and in

particular the Web” (Chaudhury and Kuilboer, 2002, p. 6) either online or offline (Reagan, 2002c) or even for incorporating the case of eBusiness (Stegwee and van Hooft, 2001). In his famous article “Strategies and the Internet” Porter (2001) points out that “companies have no choice if they want to stay competitive” but to get into this game. John Chambers, the CEO of Cisco systems, takes it a step further claiming that “by 2010, the only big company will be an e-company” (Chambers, 2000). Andy Grove, chairman of Intel Corporation takes this belief to what could be considered an extreme by arguing (back in 2000) that “within 5 years, all companies will be Internet companies or they will not be companies” (Grove, 2000).

David Schehr argues, however, “it’s an erroneous assumption that everything is more convenient to do things on the Internet” (Mahoney, 2002), and Mike Rounds, the well-known internet marketing speaker, takes this opinion to the extreme saying that if you “wanna get rich on the Internet...sell drugs” (Rounds, 2003). Amanda Clay, marketing manager of Logica, believes “it is pretty certain that if such a narrowly focused cost-benefit analysis were to be undertaken, the results for most European operators [and companies in general] would be decisively negative” (Clay, 2001).

There are numerous examples of companies succeeding in eCommerce and other ones for those failing which supports all the above arguments. E-Commerce Times’ list of the top ten most influential eCommerce players (Martinez, 2002) includes a variety of companies ranging from very small pure online retailers (in the beginning) like [www.amazon.com](http://www.amazon.com) to very large corporations like Microsoft, and from auction-based companies like [www.ebay.com](http://www.ebay.com) or web portals like [www.yahoo.com](http://www.yahoo.com) to shipping companies like UPS, etc. On the other hand, giants like Kmart have failed big in this undertaking (Greenberg, 2002). Some of the successful companies, including those just mentioned, started early (Amazon) while others started only recently (Travelocity.com). Several others failed (Webvan) when marketing very specific products, like groceries, where others succeeded – the U.K. based Tesco for instance (Vigoro, 2002/4/11; Ranchhod et al, 2001). All this tends to disprove the theory that size and early engagement of the company (Katz, 2003; Min et al, 1999) are the predominant factors of eCommerce success, together with the type of product.

All the above seemingly contradicting opinions and beliefs are bridged by Porter (2001) for whom it is simply a matter of strategy:

The key question is not whether to deploy Internet technology – companies have no choice if they want to stay competitive – but how to deploy it...Internet technology provides better opportunities for companies to establish distinctive

strategic positioning than did previous generations of information technologies ... It requires building on the proven principles of effective strategy. The internet per se will rarely be a competitive advantage. Many of the companies that succeed will be ones that use the internet as a complement to traditional ways of competing, not those that set their Internet initiatives apart from their established operations. That is particularly good news for established companies, which are often in the best position to meld Internet and traditional approaches in ways that buttress existing advantages. But dot-coms can also be winners – if they understand the trade-offs between Internet and traditional approaches and can fashion truly distinctive strategies. Far from making strategy less important, as some have argued, the Internet actually makes strategy more essential than ever.”

### **2.3.2 Rationale behind the decision to engage in eCommerce**

Businesses of every type engage in commercial activities, each with very specific goals to achieve and, usually, certain strategies to follow. Harris (Harris and Goodman, 2001), Chaudbury (2002), Fraser (Fraser *et al.*, 2000) and Lumpkin (Lumpkin *et al.*, 2002) all agree about the basic strategies that drive shareholders’ value of enterprises. In general, they suggest a framework of questions/challenges that the executives have to face, namely, operational excellence, product and service leadership, closeness to customer, stability and protection [even increase] of share values. Aiming to achieve any or all of these business goals, company executives usually set a business strategy to follow.

To ask executives to get involved in eCommerce means they will have to change these strategies slightly or considerably. No matter how important eCommerce is in general, there must be a clear reason for it. Drew (2003) suggested a list of driving forces that shape the rationale for the adoption of eCommerce. Although this list is the result of a study conducted locally in East England, the author believes it is quite valid for other economic regions of the world, including Greece:

1. Pressures from suppliers or other business partners: it is not rare nowadays to have suppliers leading their customers to place their orders through an online ordering system. This type of pressure is realized either in the form of not offering other means for making an order or through discounts provided to customers ordering online.
2. Customers demanding to deal on the internet: the number of individuals that prefer to buy a product, to hire a service, or to find information about something through the internet is steadily increasing. This type of new customer demand causes more and more companies not having an online presence to seriously think about establishing one.

3. Need to increase the value of the business: it is believed, not always rightfully, that even by just having an online presence a company adds value to its business. Others believe
4. Orders of top management: quite frequently, especially some years ago when the value of an online business and its expected outcome were not clear and the role of eCommerce not fully appreciated, the top management were the ones that would order for the development of a web site perhaps projecting the future even without sufficiently justifying their decisions.
5. Industry changes and trends: one of the main reasons leading business people to adopt the eCommerce idea and approach is the trend that more and more businesses move on the internet platform. This is especially true in developing digital economies including, perhaps although it remains to be proved, Greece.
6. Opportunity to expand and grow: not few business people see the internet technology through the web platform and eCommerce activity as a big opportunity to open their business to new markets even outside their local environment. It is no secret that one of the key elements that constitute the new digital economy is the globalized markets and the globalized economy in general for which every business related individual refers quite often.
7. Threat of large competitors taking the business: it is rather inexpensive to enter new markets and the risk is very much under control once risk assessment has been made. Then it is no surprise that large competitors take every opportunity to enter “uncharted” territories, i.e. business fields that they would not think off entering before, in an attempt to increase their profits.
8. Threat of new competitors taking the business: for the same basic reasons of low cost and relatively low business risk new businesses are entering traditional markets, especially in those cases where the past 10 years of marketing experience have proved it is quite reasonable to do so. There are several examples of online previously small companies that have largely dominated traditional markets like books, CDs, travel, etc. to become internationally known as eCommerce giants like Amazon.com, eBay.com and Expedia.com to name just
9. Need to keep up with existing competitors: it is common understanding to consumers worldwide that the internet technology and eCommerce activity brought lower prices of products and services mainly because of the global nature of the new type of online competition. Quite soon, if not already, business people will have no alternative but to enter the digital arena not for more profit but just to avoid seeing their market share shrink.

Another consideration is the key management issues that can be tackled with the help of eCommerce technologies (Drew, 2003; Harris and Goodman, 2001; Chaudhury, 2002; Fraser *et al.*, 2000; Lumpkin *et al.*, 2002). Aiming at serving the existing customer base better business people all too often focus their attention at addressing such issues as the reduction of transaction costs and processing time as well as the improvement of the quality of products and/or services and the introduction of new ones. If they succeed in the former, that is reducing the transaction costs, it could bring their products'/services' price down, thus, increasing their competitiveness and, subsequently their sales and profit. By cutting processing time of orders they increase the volume of sales that can be processed and hopefully their profit as well again. Quite frequently nowadays, businesses target to the improvement of the quality of products and/or services adding value to them and differentiating them from those similar and comparable available in the market. Another action taken frequently, especially in sectors like the automobile industry, with the thought of serving the customers better is the introduction of new lines of products or services.

Alternatively, companies could utilize the information technologies and the eCommerce potential as they could expand the customer base. This could mainly be achieved either through eMarketing (email, ecatalogs, etc) which is a very inexpensive way to promote all kinds of products and services online or by opening new markets quite possibly outside the physical borders of the country in which the business is physically based. Finally, one key issue that the management of a company usually wrestles with is to stabilize, protect [and even increase] profits by increasing each share's value or achieving high cash flow through the increase of business volume.

A last step before shaping an eCommerce strategy is conducting a risk analysis, trying to determine possible obstacles when engaging in eCommerce. There are a number of obstacles (Drew, 2003) that could block such an undertaking some of them quite realistic while others not so much. One of those that could be characterized as not very realistic is the general fear that the risk of getting in the eCommerce arena seems to be too high. There is no doubt that like every other business venture planning an online presence is not risk free. However, it would also be argued that a business's reputation is more at stake in this case than other financial or management related issues as at least the initial investments required in human and other resources are very much in the management's control.

A second obstacle, rather realistic actually, is the inability to find a way to make money from it. Indeed, the business people have better realize that making money directly from eCommerce activity through their company's web site should not be the target but, rather, incorporating this new marketing and sales channel to the rest of the business processes. Experience of the past few years shows that, usually, the business volume is not increased by the eCommerce activity per se on the web site of the company but overall. There are exceptions to this sort of rule but mainly to support the general suggestion.

A last difficulty is the view of eCommerce as a threat to the existing way of doing business. This does not relate explicitly to eCommerce activity but to any new process introduced in a company's way of doing business. It is well known and suggested by many professionals, scientists and scholars worldwide that people resist to change, especially the working people. However, this problem is most often resolved when the management decides to either enforce the new procedures or convince its employees of the need and the benefits that result from it for everyone.

Once these barriers have been overcome, a company is ready to get into the eCommerce arena. This however, should not be done ad hoc but, instead, it should be the result of a thorough strategic approach. The international paradigm, luckily, provides a series of themes to be discussed by the executives of a company in order to plan the appropriate eCommerce strategy for their business.

### **2.3.3 Planning an eCommerce strategy: A framework of suggested stages and costs**

When planning an eCommerce strategy executives need to clarify which part of the company's operations might be affected by eCommerce (Phan, 2003). A number of suggestions exist for every possible case, i.e. promotion, logistics, operations (When *et al*, 2001; Drew, 2003; Landry *et al*, 2001, Coleman, 1998) but they all boil down to a framework (Ellinger *et al*, 2003) that KPMG Consulting first suggested (based on a study of the financial sector) and named the eCommerce Maturity Model. This framework/model describes the 5 stages at which a company might be found with regard to its eCommerce strategy.

In the first stage (stage 1) a company does not have even a simple presence on the internet. Put quite simply and not surprisingly at all every company has been at this stage before entering eCommerce. Most of the companies especially in the developing digital economies move on to the second stage (stage 2) once they decide to go online.

The second stage (stage 2) is the marketing/communication stage in which a company uses the internet as a billboard to broadcast profile and basic product information and offer simple ways (email) of communication via the internet. The costs are mainly the initial ones (i.e. designing and building the web site), ranging from a negligible cost to a few hundreds of Euros depending on the technology and/or tools used and the annual cost for the service of hosting the web site with an ISP, including one or more email accounts. In these cases there are no significant maintenance costs as the web site is mainly static (i.e. it seldom changes and not on a regular basis). Usually the budget for such an inexpensive basic eCommerce infrastructure would be very small (usually estimated to less than €1,500).

The third stage (stage 3) of eCommerce solutions is addressing issues associated to publishing and catalogue provision, advertising and offering catalogs of their products/services in order to reduce publication costs, and/or human resource allocation. Costs in this case, both initial and maintenance, are significantly higher because of the size (breadth and depth) and complexity/sophistication of the sites (video, images, sound, animation), the costs related to networking issues (servers, terminals/workstations, cabling and the like), the bandwidth and round the clock availability, and the dynamic (and updated) nature of the content. The costs might rise to unexpectedly high levels if issues like customization, globalization, marketing affiliation and others are to be faced. Because of the number of different parameters involved (Larsen *et al*, 2000), it is not easy to estimate the cost of a web site at this stage, but one can safely project it would be at least considerably higher than that of the previous stage.

The fourth stage (stage 4), the transactional stage, characterizes a web site that includes features such as two-way communications to accept and process orders online, securing online transaction and payment, suggesting order delivery through different (and possibly multiple) channels either on- or off-line, allowing online tracking of the status of orders and their delivery. These are in addition to all the features mentioned in the previous stages. Third party costs in this case are very significant and should be considered prior to the realization of such a Web site. They include provision for securing online transactions through well known established secure networks (e.g. verisign), lawyers' consulting fees for the support on matters related to international business and other legal issues, etc.





Finally, there is the interactive/integration stage (stage 5) when the internet is used to conduct all business transactions described previously and to integrate these eCommerce practices and activities to the overall business. In addition to these, perhaps, sharing information with other enterprises using electronic data interchange (EDI) or other similar technologies is also arranged. There is no point in attempting to gauge costs at this stage as it is not possible to separate them from the overall business costs.

It is critical to determine what stage of eCommerce solution a company should implement for its online presence, however, decisions don't stop here. Other very important issues must be discussed and addressed by the business executives while they form their strategies.

### **2.3.4 Realizing eCommerce**

Once it is decided what kind of eCommerce solution should be implemented, that is the stage the business executives would like to enter in, another important step is assign the task of implementing the company's web site. There are a number of options as to who should be assigned the task of implementing the eCommerce strategy. Drew (Drew, 2003) suggested a possible list of choices. One of them is outsourcing the whole task by subcontracting to outside vendors or incubators (jargon for companies specializing in developing, maintaining and hosting other companies' web sites). This approach would lift from the company the burden to hire trained experts for the job and educate personnel dedicated for the purpose of maintaining and updating the site.

Another approach is to have a joint venture or alliance with other companies of the same or different sector in order to share the costs and risks associated with the task as explained earlier. The idea is quite simple actually, having just one group of trained individuals serving the needs of more than companies. A yet third option is to establish a new subsidiary or company dedicated for that purpose, especially if the "mother" company is large enough. A fourth choice suggested here is to form an internal new unit or department inside the company manned by trained technology experts and other personnel from within.

In any case the time required to realize an eCommerce solution varies depending on the type or model of the web site but could range from a few minutes to several years (Larsen *et al*, 2000). Despite the investment in time, human and other resources, failure is always a possibility. Lovelock (Lovelock, 2001) refers to a Boston Consulting Group evaluation of 109 failed dot.coms in the U.S.A. during the period 1999-2000 which identified the main signs of failure:

- poor revenue resulted from the operation of the web site,
- cost and profit model not yielding enough return on investment in an finite time period,
- no competitive advantage gained either in relation to product/service pricing or their quality,
- lack of benefit to the company's customer base and the consumers in general,
- problems in organization and execution,
- ineffective warehouse management and fulfillment, and
- firm's website conflicting with existing business partners.

Apparently, the decision to engage, resign, or reorganize an eCommerce strategy essentially depends on the view of the role of eCommerce in the market, the company's state in the present and the future and how decision makers plan to take advantage of it. Drew (Drew, 2003) suggests a number of views that professionals, scientists and scholars worldwide adopt. These views range from quite promising as of the benefits and role of eCommerce in the future of a company to absolutely negative actually completely ignoring it and refusing its future use. More specifically they are:

- "ecommerce will transform the organization" by completely changing its structure as well as the way business is done,
- "the internet will be central to the business strategy of the company" but its overall structure and main business procedures will remain the same,
- "eCommerce will support major growth thrusts",
- the company will exploit the internet in order to market "new products and/or services",
- eCommerce is only expected to "cause minor changes in the way of doing business",
- "there are no significant plans to expand to eCommerce".

## **2.4 Implementation issues related to eCommerce development**

Once decisions have been made as of what features and functionalities the eCommerce solution should include the technology experts come into play in order to realize the solution into a good web site. Sharlyn A. Dimick defined a "successful Web site":

[The] defining [of] the appropriate information and organizing it so [that] it's easily found, assembling a well-rounded web team, developing a web style guide, choosing the appropriate tools, and maintaining the information on a regular basis (Dimick, 1996).

Based on previous work on the same subject, i.e. successful Web sites, this section identifies, describes and analyzes the issues that follow.

### **2.4.1 Stickiness**

In the internet, billions of Web sites exist and even thousands are added every day (Trends..., 2003; Faster..., 2002). Designers and developers consider it important that their web sites be attractive and inspire trust in users. This is reflected by the amount of time repeatedly spent visiting a site; a practice known as stickiness, a combination of “content, usability and personalization” and other issues, each one to be evaluated and measured on its own merit (Stickiness..., 2000).

Arguably the most important element of a web site’s attractiveness is its graphical user interface (GUI). The user interface should contain a mixture of graphics and text that could make it “appropriate” and “appealing” to any visitor (Sutcliffe, 2002). Furthermore, Nielsen (1999) supports the assumption that the actual web site content is among its most important attributes. This can be accomplished by avoiding annoying and distracting elements i.e. banners, marquees, graphics that “overshadow text”, also the “overuse of animations”, or unusual designs which do not follow certain accepted patterns of web site design, etc (California, 2002; Interface..., 2002).

Another important guideline to follow when implementing a web site is to avoid using scrolling mechanisms (Interface..., 2002). The reason is it has been proven that the user, usually, ignores hyperlinks difficult to be seen (Zhang et al., 2000; Iowa, 1999). Several techniques are available to avoid such a negative aspect but two are the most popular among web developers. The implementation of floating hyperlinks, i.e. hyperlinks that are programmed in such a way as to “follow” (floating on screen) the active/visible part of the particular web page, is one of them. Another way is to limit the content of a web page to that which can fit in one screen shot.

Regarding hyperlinks the web developers should also be concerned with their placement and style. They should be easily accessible at a glance, and readable with their font preferences and their style not causing stress to the user when trying to distinguish them from other content. In case icons are used instead of text as hyperlinks, these should be, intuitively identifiable at least by information and communications experts, business people and marketing professional, if not everyone (Zhang et al., 2000; California, 2002). These are simple human-computer interaction guidelines that apply in the case of web sites as well.

One of the essential requirements for every web site is to avoid having undefined objects as the targets of any of its hyperlinks, meaning that none of the hyperlinks should lead to a missing or dead link. Also the content of the target object of the hyperlinks should be relevant to the web site's content (Helm, 2001; Internet..., 2002; California, 2002). The opposite could seriously damage the image of the company the web site belongs as it would cause the visitor's lack of trust to the company severely reducing the chances to succeed in the eCommerce arena.

A very useful feature of every web site is the implementation of a site map of some sort. The reason for that is every user would like to know their location at any depth in the web site they are surfing. For this purpose it would be useful if such mechanisms as site tree diagrams, composed of text or icon hyperlinks, were included displaying the user's location (Roy et al., 2001; California, 2002). Not doing so will most likely cause time loss and tiredness from the part of visitor and, consequently, reluctance to revisit the site.

Another quite handy element of a web site implemented all too often recently is the internal search engine. It is strongly recommended by technology experts that any web site that includes articles or any type of information of significant size and/or value should either have this feature implemented or at least contain hyperlinks to the complete text if available (Nielsen, 1999). This trend was followed in the past by online newsgroups, journals and the like (Zhang et al., 2000) but the newly developed web sites, especially those that belong to large organization, incorporate this feature as well. Its advantage is that it radically reduces the time needed to find the things that one is looking for in the site adding positive points to the company's overall eCommerce strategy.

A critical element, often overlooked, of the quality of a web site is the quality of information it provides to its visitors. The information displayed should be extracted from the most accredited and accurate source (Zhang et al., 2000). Additionally, it should be updated regularly to eliminate the possibility of any outdated content, product specifications or "past-due elements" (Katerattanakul and Siau, 1999). Otherwise, failure to comply with the aforementioned criteria will cause a direct impact on the consumer's behavior towards the corporation i.e. misbelief of the information presented (Katerattanakul and Siau, 1999).

Finally, a very easily implemented feature with surprising positive influences on the visitors' behavior is any mechanism that would allow for visitor feedback. A web site should allow visitors to comment on its strengths and weaknesses (Zhang et al., 2000) as well as provide a two-way communication channel (Katerattanakul and Siau, 1999), by means of online surveys, email link, feedback forms (Interface..., 2002; Evaluating..., 2004). It would help the visitor feel that her ideas, comments and remarks are important and taken seriously under consideration.

#### **2.4.2 Customization and Globalization**

A web site's success depends not only on features such as the aforementioned, but also on its global (or local) perspective, meaning its attractiveness and usefulness to populations in different geographic regions, a feature often referred to as globalization. The reason is people in different parts of the globe behave in different ways to various stimulations triggered by a web site because they live in different cultures, practice different religions and communicate using various languages and symbols (Hanrahan and Kwok, 2001). Furthermore, it would be quite helpful to clarify, through the web site, legal and/or customs particularities that might affect a visitor's engagement in eCommerce activity when using the web site of a company based in another country than the one the individual resides. This factor could cause positive first impressions to some populations or culture shock to others. Therefore, the strategy followed in designing the site should address whole populations (Rutherford, 2000).

In order to achieve the above a web designer/developer has to take under consideration certain realities. First, it is a false assumption that English is the internet's dominant language. Indeed several studies and surveys reveal other languages are used more by the internet users (Xanthidis and Nicholas, 2004; Communicate..., 2000). A company that wishes to attract multilingual audiences should include them in their eCommerce strategy as alternative target audience in addition to the English speaking internet users (Hanrahan and Kwok, 2001). Then, the color used for the background is another issue that affects users' positive or negative reactions. Recent surveys revealed that different colors have different connotations for different regional populations (Zhang et al., 2000; Hanrahan and Kwok, 2001). One such example is the case of China where red is the dominant color (Anderson and Fell, 2003) and has several meanings including the symbolism that the person whose name is written in red is dead, or about to die, or on the other hand expresses such happy moments of life as birthdays, weddings etc. and in general is considered good luck.

A third key point to seriously consider when developing a web site with global prospects is that users should also be informed about the legal framework related to taxation and import/export procedures in case products are to move in or out of a country (Rutherford, 2002). This is because it is not rare to have sanctions imposed to a country from the part of the international community or have a ban on certain products from the part of a country's government. Finally, online ordering forms should include a "universal address" format i.e. instead of using the U.S. term "zip codes" use the universal "postal codes" (Housley, 2004), and allow for the selection of various countries and their corresponding addresses.

On the other hand, the developer must address each individual's preferences as well. This is called customization or "adaptive interfaces" (Ardissono et al., 2002) and refers to a web site's built-in facility to identify a user's preferences even before any interaction takes place between the user and the site and present information in a way that is tailored by the users' preferences (Svet, 2003) and knowledge. Some scholars, scientists, professionals and generally experts in the field use the term personalization instead of customization. Most of the times they mean the same functionalities and just occasionally they distinguish the two referring to the former when focusing in web site content and to the latter when focusing in web site interface and design. These variations in the way a web site appears or as of the content presented to different user profiles can be created using forms, queries, cookies or other mechanisms and stored in databases.

A few added features could yield some more positive points towards achieving personalization and/or customization. For example, the different payment options accepted i.e. credit cards, money orders, various types of checks, etc., should be listed somewhere and a detailed description of the specific procedures followed both by the visitor and prospect customer of the company and by the representatives should be provided (Hanrahan and Kwok, 2001; Housley, 2004). Also, a currency converter should be implemented to facilitate quick conversion between currencies (Housley, 2004; Hanrahan and Kwok, 2001). These are very easily implemented features and quite useful helping visitors' decision towards engage in eCommerce transaction but are, once again, quite often overlooked.

### **2.4.3 Availability, Hardware/ Software requirements, Accessibility**

The introduction of new types of electronic devices such as personal digital assistants (PDAs), new generation mobile phones, also called cellular phones, with embedded internet capabilities, etc., in addition to the personal computers and laptops (notebooks) all having different abilities of presenting content to their user has lead the companies to

find ways to make their web sites available to different platforms and operating systems. The advent of mobile commerce in several digital economies worldwide has just stressed this need even further. Since 2002 but more intensively the past 3 years (since 2004) a great deal of attention has been given to the address of making web content available to all these different platforms. Although no definite recommendations are yet set but a number of organizations, one of the most important being the W3C (World Wide Web Consortium), have published several papers on the subject especially under the Web Accessibility Initiative (WAI) (Pappas and Cooper, 2008).

The main problem to be tackled is that a web site display is primarily hardware/software dependent. Imagine the enormous problems that arise when a Web site designed in 1200x1600 in 32-bit color is viewed in the 120x240, 256-color display of a PDA or a mobile phone. It would, simply, be unreadable. In order to address this issue professionals suggest the design of a web site that is available and its content presentable by any type of electronic device. Currently, it appears that there are no tools available that actually convert a Web site's layout for different device usage but there are tools that help create accessible code [Macromedia..., 2004; Bohman, 2003; Sullivan, 2004). The recommended way of dealing with platform diversity is to separate layout design and content by having different layout templates, or "style sheets" for the same content, depending on the specific device (Nielsen, 1999; Accessibility..., 2004).

Closely related to the type of electronic device, the operating system and the browser platform, but mainly to the internet connection speed available is the time required for a web page of a web site to be loaded. This is a crucial factor when evaluating the web site. Slow response speed, i.e. the time required to load a page inside a web site, of more than 7-10 seconds, could be annoying (California, 2002) and discourage internet users to revisit.

No doubt the biggest challenge for every web site designer/developer is to implement it in such a way as to make it accessible for persons with disabilities. A web site should be designed not only with the media through which it is viewed in mind but its viewers as well. An organized attempt to suggest possible guidelines for web site developers towards this goal is the one by the W3C under the title "accessibility guidelines 2.0". The goal is not achieved yet but as of late 2007 some draft guidelines are already proposed (Allan and Richards, 2008).

People with disabilities such as limited vision, hearing or mobility could find it difficult to navigate in a site filled with “graphically intense” content i.e. fairly large amounts of different colors and graphics. Too much color could be a problem for a person who is “visually impaired” person since it may make the content hard to read (Universal..., 2004). For that reason it is suggested to host a second or even third version of the web site, customized for persons with disabilities (McManis et al., 2001).

There are a number of guidelines to follow for versions of web sites for viewers with various types of disabilities. The first is that if tables are used in which text is contained, then a logical grouping must be followed since most screen readers and magnification software may not read the text correctly. Text in cells must be separated into paragraphs to assist reading software (Making..., 2002; Pyatt, 2004). Additionally, include the functionality of providing textual description of images and “non-textual elements” in the case where browsers are configured not to display images, or the person who is using the browser uses a screen reader that cannot “read” images (Making..., 2002).

In the most likely event that a web site includes “motion and animation” this should be at a frequency of less than 2Hz or more than 55Hz, as within this frequency range an animation may “trigger epileptic seizures” to individuals with related health problems (Making..., 2002; 30; Iowa, 1999). Finally, it would be quite useful to ensure that the site contains a mechanism that may trace the utilization of a screen reader or any other related tool and/or has also the ability to identify a change in language and adjust accordingly (Making..., 2002).

Some other issues related to accessibility and availability are the following:

- Text that is available through JavaScript i.e. pop-up windows, should also be available for users with JavaScript disabled and for users utilizing screen readers since screen readers may not read text contained in JavaScript (Pyatt, 2004).
- Frequently Asked Questions (FAQ) should be implemented together with a Help Topics feature. Accessibility covers matters that deal with user problems, not just hardware. Online guides, help topics and support reduce user stress to solve potential problems and increase the ease of navigating the Web site (Roy et al., 2001).

The main problem with the implementation of the features mentioned just above is the overall costs associated with it both in terms of time but most important in terms of money. To make matters worse the returns of investment are far from sufficient enough



as the internet users' population that would be addressed by such sophisticated sites is a very small part of the overall online population. This is the main reason even large multinational corporations are reluctant in realizing such types of web sites despite the various directives towards this goal from government organizations or nations like the European Commission and the U.S. department of Justice just to name a couple.

#### **2.4.4 Privacy, Security, Legal and Ethical issues involved in internet marketing**

Security, privacy, legalities and ethics are probably the most discussed technologies issues, nowadays. Several studies were conducted to clarify how they affect large corporations' successful or failed strategies to attract digital consumers (Privacy..., 2002). Currently, the most effective way to tackle this problem is to apply available mechanisms, in the form of software packages, aiming to protecting and securing valuable and sensitive data and restricting access to vulnerable systems (Benjamin et al., 1998).

Unfortunately, it is a proven fact that there is no bulletproof mechanism to ensure complete defense against the various types of threats e.g. spyware, viruses including Trojan horses among other malicious programs/scripts, adware, even cookies used improperly by unauthorized people, etc. Then, it is on the developer's judgment to decide which of the available mechanisms should be used and how to ensure the success of internet strategies without compromising their visitors' privacy and keeping security, legal and ethical issues properly addressed. This is a goal very difficult to achieve. On one hand the more visitors' data a company keeps recorded the more effectively it will present a customized web site tailored to their needs. On the other hand this causes many compromises in terms of the visitors' personal privacy and quite possibly of their personal computer security from malicious software. The following guidelines address the majority of these issues except all those that are not directly connected to the web e.g. television/radio marketing.

First, in order to ensure the visitor's privacy web sites should not collect sensitive information from users' PCs without their consent. In those cases where it is decided as necessary to collect such information the visitors should be clearly informed as of the use of the information. Personal data is most often collected through the use of cookies, spyware, and other related mechanisms. It is not always possible to directly confirm existence of such mechanisms like spyware and computer viruses. However, there are a number of anti-spyware and anti-virus software available which can be used by internet

users to quite successfully block any attempts to compromise their personal computers' security and their own privacy.

Second, aiming to further protect visitors' personal financial data eCommerce web sites at the transaction level (Xanthidis and Nicholas, 2007) should implement security protocols and services, like SSL (Secure Socket Layer), SET (Secure Electronic Transaction) to name the most widely used, to ensure safe transactions over the Internet (Verisign, 2002). Furthermore, in those cases where emails are exchanged between the company's representatives and their web site's visitors it could help if the email addresses of the latter were protected or masked via some type of scripts, forms, buttons, etc. to help defend against spam bots' attempts to identify email addresses while crawling the web.

Looking from the opposite site that of the owner of the web site things are a little more complicated in those cases where the site is somehow connected with the company's intranet. In that case, the company's information and communication technology experts must ensure that no unauthorized person is allowed to enter web pages restricted to authorized access. This could be achieved by implementing log-in procedures to authenticate a visit to such pages.

Finally, in every web site like in every other software a message should be present to inform the reader that the material is an official document bound by relevant international copyright laws (Fishman, 1994).

## **2.5 Digital consumer preferences and behaviour**

A nice-looking and well-structured building may satisfy the people that invested in it, those that built it and the passers by gazing at it. However, until and unless consumers and/or companies use it, it will remain an investment waiting to be paid back and it will not be too long before the spectre of bankruptcy knocks on the door. This, of course, is also true of the information communication technology (ICT) "buildings" that are being erected all over Greece to provide an information society in which eCommerce flourishes. In that respect, the previous discussion would only have an academic or professional interest unless it was tied together with a discussion of how different people perceive internet technology and eCommerce.

### **2.5.1 Effect of demographic characteristics of consumers in eCommerce growth**

Different demographic groups of people have different opinions toward internet usage and e-commerce transactions. Age is the first issue to be considered when dividing people into different groups. It is clear that in the case of Greece, on average, about 48% of the young people aged between 15 and 34 use the internet whereas only about 5% of those aged more than 55 also use it (TNS Icap, 2006). In recent years, though, the international paradigm has it that the citizens of older age groups have also started to use the internet especially in more e-ready countries such as Sweden and the United States (Zhang *et al.*, 2000); a trend expected to be reality soon for Greece as well.

Gender, also, plays an important role for internet usage. For example, in the United States of America in 2002 women were the most frequent online buyers of travel packages (Saliba, 2002) but on the other hand, the global internet is dominated by male users (Regan, 2002c). Another interested point is that men and women use the internet in different areas, i.e. women use the web for e-mail, map and medical information whereas men use the internet for news, and do-it-yourself information (Clyde, 2000).

Educational level has a direct effect on internet and e-commerce usage. Taylor suggests that the higher the education level the more increased the probability not only to use internet either at home, at work or anywhere else but, also more likely it is for this individual to engage in some kind of online transaction (Taylor *et al.*, 2003). Income level and field of expertise are the additional demographic factors associated with e-commerce growth rate in a country. By increasing income, internet use and eCommerce activity are also increased based on international statistics (Xanthidis and Nicholas, 2004, pp. 357-358). The more closely related to the information and communications technology is the field of expertise of an individual the greater are the chances that this person is comfortable with the use of the internet and positive to engage in eCommerce transactions.

Finally, the average time of internet usage is another important element leading to eCommerce growth. It seems that people who spend more time on navigation of the web, labeled by Lynch and Beck (2001) power users, are more eager to change their buying habits and make online transactions.

### **2.5.2 Effect of non-consumer related factors in eCommerce growth**

Other factors play a significant role in increasing eCommerce activity. These are more related to the products themselves than to the consumers. The brand name of products is one of them. Experience shows that the brand name provides a quality assurance to consumers rushing at buying a product online or to those who are not power users. However, this phenomenon is weakened as the consumers rely more on the internet as their source of information and comparison between products (Ward and Lee, 2001).

Probably the most important factor related to the product is its nature. Products that are cheaper, non-tangible (such as travel packages, software and CDs), information-based and with a high rate of customization and personalization are easier to buy (Khalifa and Liu, 2002; Chadhury *et al.*, 2001) than those which need to be touched during shopping, like apparel (Poon and Joseph, 2001). Also, eService is a type of online product able to absorb more customers towards online transactions by granting improved quality through efficiency, reliability, fulfillment and privacy in comparison to ordinary services (Zeithaml, 2002). On the contrary, products of a physical nature, like foods, grocery and the like are far less likely to be purchased through an online transaction.

The price of the product ties together with the previous factor in affecting, in a positive or negative way, the online transaction. The prices of the products offered online should be lower compared to those of the same or relative products offered in physical stores. In addition to that it should be noted that consumers favor those eCommerce sites that offer not only choices about different products but, furthermore, the ability to bargain the prices (Regan, 2002d). This explains the huge commercial success of certain sites based on the auction model such as eBay, yahoo, etc.

Another important element of an electronic transaction is consumer trust. Owning an internationally accepted credit or debit card is the essential component of executing an eCommerce transaction but it is not sufficient. Owners of such cards should be comfortable at using it on the web. The problem is there are different ways of internet-based opportunism the most common being credit or debit card fraud, chain letters and fake online auctions (Attaran, 1999). Trust in the financial organization that supports the online transaction is a suggested solution to this problem as trust in the real world is an absolutely different issue than trust in eShopping virtual market (Ba *et al.*, 1999; Murphy and Blessinger, 2003). The role of trust, actually, is to make up for the lack of any kind of face-to-face relationship between the online customer and the seller which is the most important barrier in gaining consumer trust in the virtual online market.

Product information and presentation also comes into play when online transaction is the goal. The internet can improve the information symmetry, i.e. the fair balance of information between a buyer and a seller, between the two parties of a transaction. The high rate of competition in e-commerce forces the retailers to present real information about their products in order to attract their potential customers. This strategy together with building good reputation about a company are the mechanisms that lead to the reduction of the phenomenon of information asymmetry which means the seller has all the information about the products to be sold with the buyer being less informed (Mui *et al.*, 2002). It could also solve the problem of the low quality and the misleading information on the products sold which are listed among the main sources of consumer complaints together with delivery problems, security concerns, customer service and others (Cho *et al.*, 2002). The presenting method of the products is another major issue in the expansion of e-Commerce. Availability of human-interaction, ease of navigation, credibility, rate of response and appearance are the factors that can influence customers' perceived quality of a product (Cox and Dale, 2001).

The internet plays an important role in spreading real information among its users about themselves and, possibly, the products and/or services they provide to their peers (Nicholas, *et al.*, 2003). There are two ways to measure this interaction and draw conclusions as of its qualitative and quantitative elements:

- a. Indirectly through surveys, whether online or offline, of the public or some target groups,
- b. Directly through web log analysis, which provides real, non-suggestive information about the actual events that take place when an internet user or digital consumer navigates the web.

### **2.5.3 Review of the studies locally conducted related to eCommerce**

One of the major local and official organizations conducting research on internet technology and eCommerce development in Greece is the eBusiness Forum ([www.ebusinessforum.gr](http://www.ebusinessforum.gr)). A thorough look at the web site of the organization will explain the visitor all the concepts related to eCommerce, e.g. business to business (B2B), business to consumer (B2C), business to government (B2G), eGovernment, eLearning, eBanking, etc., which seems to be its main goal. Another one is to provide regularly updated information about government funding of prospect online business activities. Explanations about the currently running funded programs of “go-online” (free translation “connect to the internet”) and “e-business” (free translation “upload your business online”) are given as well as details about the current standing of the

internet and information society and eCommerce growth in the country. A third goal of the organization is to inform its visitors of the developments and progress of utilization of internet technology and eCommerce in any aspect of the social life. This is done through a series of research studies, in the form of papers or PowerPoint presentations, which are sent to everyone subscribed to its newsletter. It is one of the easiest and most formal ways for any individual or business to get informed about the technology as the organization's announcements reflect mainly the official governmental agencies from which it gets the information and from the ministry of development to which it is associated.

The drawback of the organization's strategy as far as informing its visitors is it does not inform of the problems related to the very low or nonexistent eCommerce activity in the country. It recognizes the problem in some rare notices but it does not address it and, even worse, it seldom studies the possible reasons behind the problem. It is very difficult to find in the site information or presentation of studies focused on digital consumer behavior and preferences related to eCommerce. It casually makes announcements on the internet penetration and, nowadays, on broadband penetration on almost a monthly basis but just occasionally it makes some announcements about how digital consumers use the internet and even more rarely about how they behave online and what their preferences are as far as engaging in eCommerce transaction, which would be of real value for the online businesses.

Another major governmental organization related to the internet technology is the National Committee of Telecommunications and Postal Services ([www.eett.gr](http://www.eett.gr)). Its online presence is, like in the previous case, a portal in which the visitors may again find information about such issues as postal services and telecommunications and the internet in Greece. It is mostly focused on hardware and telecommunications and internet infrastructure in the country and in some cases, not quite frequently, it addresses issues related to internet penetration, internet connectivity pricing and, nowadays, broadband technologies and penetration in the country. Again no interest about digital consumers and their online behavior, although it must be noted, in all fairness, that one should not really expect a systematic study on such issues as this is a mostly technical organization and far less related to managerial, business or social interests

A third source of information related to internet technologies and eCommerce growth are the very few (less than 10) but quite recognized by the public and the governments company specializing in public gallop, public policy research and societal marketing

research. One of them VPRC ([www.vprc.gr](http://www.vprc.gr)) has some conducted some public surveys related to internet technology but, once again following the general mentality, none focusing in digital consumer behavior and preferences and the like. They mainly consider internet usage, whether a user has and uses an email account (!) and even “closely” related issues like whether internet users are also using mobile phones (!) and what for, if the own a personal computer, if the have an internet connection at home and the like. The most impressive thing to note is that these companies are the leaders of providing what is thought of as expert and specialized information about technology related issues.

A fourth source of information, quite likely the most accurate and valid of all available, is the European Statistics organization ([epp.eurostat.ec.europa.eu/portal](http://epp.eurostat.ec.europa.eu/portal)). It conducts a good number of statistical researches for each of the European Union member countries on every aspect of socio-economic life and business/technology activity. It provides some information about internet penetration and technology investment and use by businesses and consumers in Greece but does not seem to escape from the rule of not studying consumer behavior related to eCommerce activity.

From all the above it seems to be a general trend from research organizations, mainly locally but possibly internationally as well, to ignore or at least be very little interested in what digital consumers have to say about online businesses and strategies. As mentioned earlier though the consumers are mostly the driving force of every business activity and online business activity is no exception.

## **2.6 The value of web log analysis in eCommerce growth**

Since the mid 90’s web log analysis has been utilized as a technique for the statistical processing of Web server log files. By 1997, the terms web logs, hits and accesses had already been defined and explained (Bertot *et al.*, 1997; Drott, 1998). Web logs are the files automatically generated and dynamically updated by the web servers at any client’s request and store information about the client’s IP address, date and time of the request, the specific file accessed and, possibly, other data depending on the server’s setup. Hits are all the different files and/or objects, be it audio, images, videos, etc., downloaded from a web server by a client. These objects typically constitute the page the client requested also referred to as an access (Bertot *et al.*, 1997). Table 2.3 shows what a web log looks like and a couple of entries in the web log files of Infoquest Computer Systems and Parts.

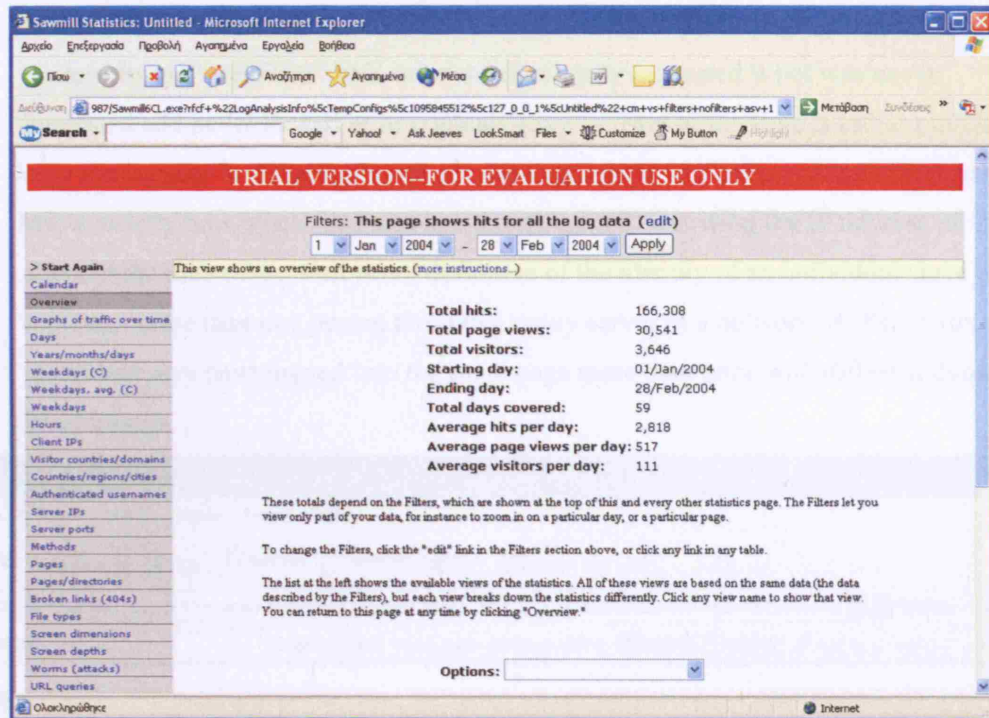
Several applications have been developed after the spread of web log analysis such as Wusage, Sawmill and Nihuo Web Log analyzer to name just a few of them. The application of sophisticated software like the aforementioned on the web logs generated by the web servers may produce reports that could range from rather general to quite detailed. In figure 4 below the reader may see a report of the general statistics about the clients' navigation through the specific site of Infoquest Computer A.V.E.E. ([www.infoquest.gr](http://www.infoquest.gr)) during the period between 1/1/2004 and 28/2/2004. These statistics include total hits, page views and total number of visitors corresponding to the terms "hits", "accesses" and "client IP addresses" respectively that were explained previously. If more detailed statistical reports are needed then the web analyzers offer plenty of choices that could be IP specific (figure 5), server page specific (figure 6), operating system specific (figure 7), date specific and many more. All this looks so ideal and quite simple even for the non-IT expert. After all the owner of the web site only needs to have the web logs automatically generated by the web servers and apply the analyzers in order to have any kind of reports needed concerning the interactivity that takes place between the site and the clients' requests. However, that's not quite the case.

```
#Software: Microsoft Internet Information Services 5.0
#Version: 1.0
#Date: 2004-03-01 00:00:12
#Fields: date time c-ip cs-method cs-uri-stem cs-uri-query sc-status sc-bytes cs-bytes time-taken cs(User-Agent) cs(Cookie)
cs(Referrer)
2004-03-01 00:00:12 195.92.95.15 HEAD /Default.htm - 200 469 166 0
Mozilla/4.0+(compatible;+Netcraft+Web+Server+Survey) - http://www.netcraft.com/survey/
2004-03-01 00:01:42 147.102.223.140 GET /info-quest/ir/pdf/Annual_report_2002.pdf
- 206 1349024 383 375156 Mozilla/4.0+(compatible;+MSIE+6.0;+Windows+NT+5.1;+FunWebProducts)
SITESERVER=ID=c1c85f9f74b48d4210f902acf7524f46;+ASPSESSIONIDAARCRDDR=CEHKFFIDDCOBDFBHKJEAJE
-
2004-03-01 00:03:56 213.249.34.211 POST /info-quest/career/cv_send.asp -
200 112 4935 796 Mozilla/4.0+(compatible;+MSIE+6.0;+Windows+NT+5.1)
SITESERVER=ID=e317262056b0e2dd80facc96931faca;+ASPSESSIONIDAARCRDDR=AAHKFFIDHJDPFBFENPCDFNCB
http://www.quest.gr/info-quest/career/jobs/form.asp
```

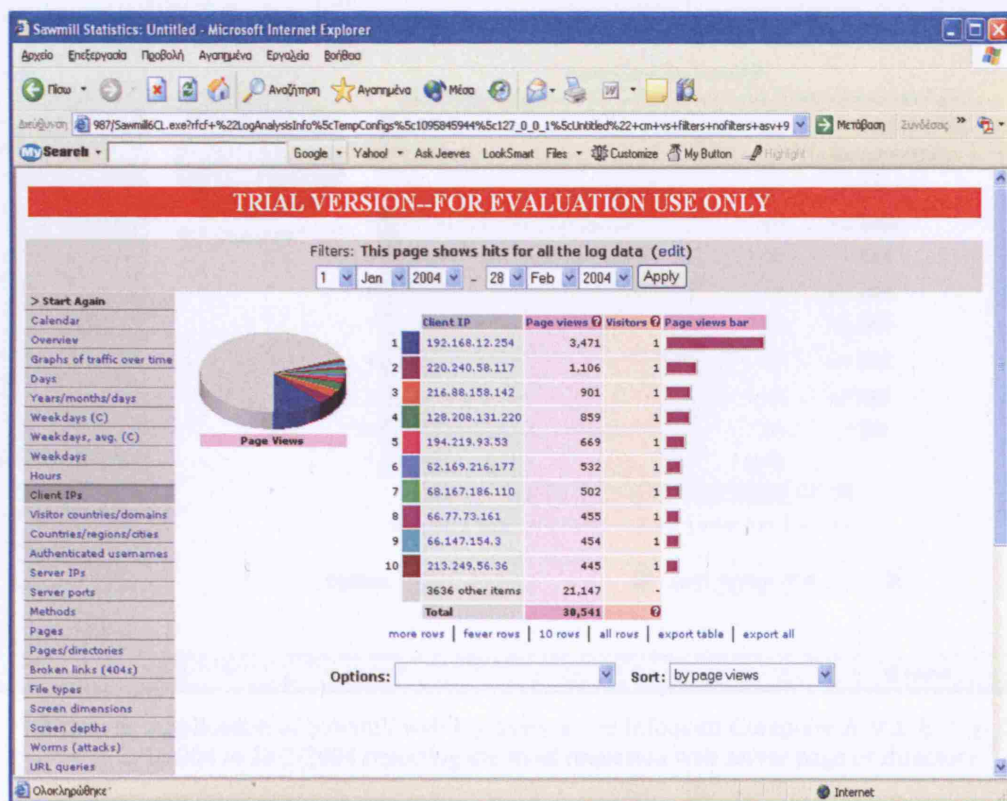
**Table 2.3:** Infoquest Computer A.V.E.E. (Computer Systems and Parts) Web log part.

Once the distinction between the "hit" and the "access" (or "page hit") has been clarified (Bertot *et al.*, 1997) and the definitions of other terms related to web log analysis given (Rosenstein, 2000; Murphy *et al.*, 2001) the technique began to be treated as a safe means to interpret web logs in connection to internet user behavior. Roughly at the same time, that is late 90's, a group of researchers from City University of London lead by Professor David Nicholas, a pioneer of web log analysis, introduced an element of uncertainty to each and every one of the statistics generated by the web log analysis tools.





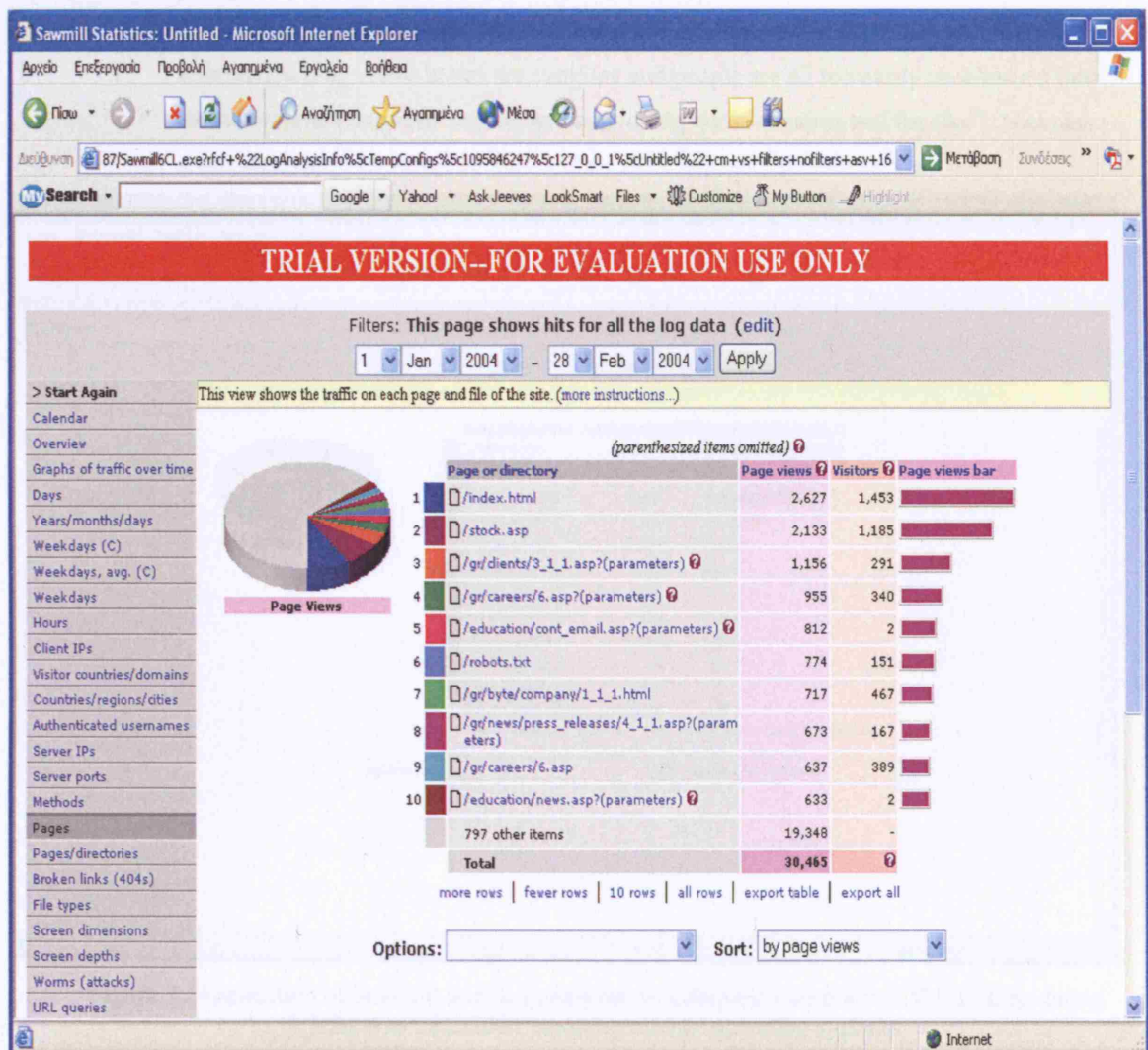
**Figure 4:** Application of Sawmill web log analyzer on Infoquest Computer A.V.E.E. logs dating 1/1/2004 to 28/2/2004 reporting general facts



**Figure 5:** Application of Sawmill web log analyzer on Infoquest Computer A.V.E.E. logs dating 1/1/2004 to 28/2/2004 reporting facts related to client IP

Nicholas essentially doubted every interpretation of the statistics provided by the web log analyzers at the time (Nicholas *et al.*, 1999). A "page hit" may not actually be a hit

as it is possible for a user to have accidentally downloaded the page, or have been misled by an “irrelevant” link, or even consciously requested it but was never interested and never looked at its contents anyway. Measuring time is rather pointless as only the logging in is traceable and not the logging out of a page making it impossible to know exactly how much time was spent looking at it. Knowing the IP address of the client at the time of the visit is not definitive of the identity of an individual since it may represent more than one person through a proxy server or a network of IPs, or since one individual may have logged into the same page more than once with different dynamic IP addresses.

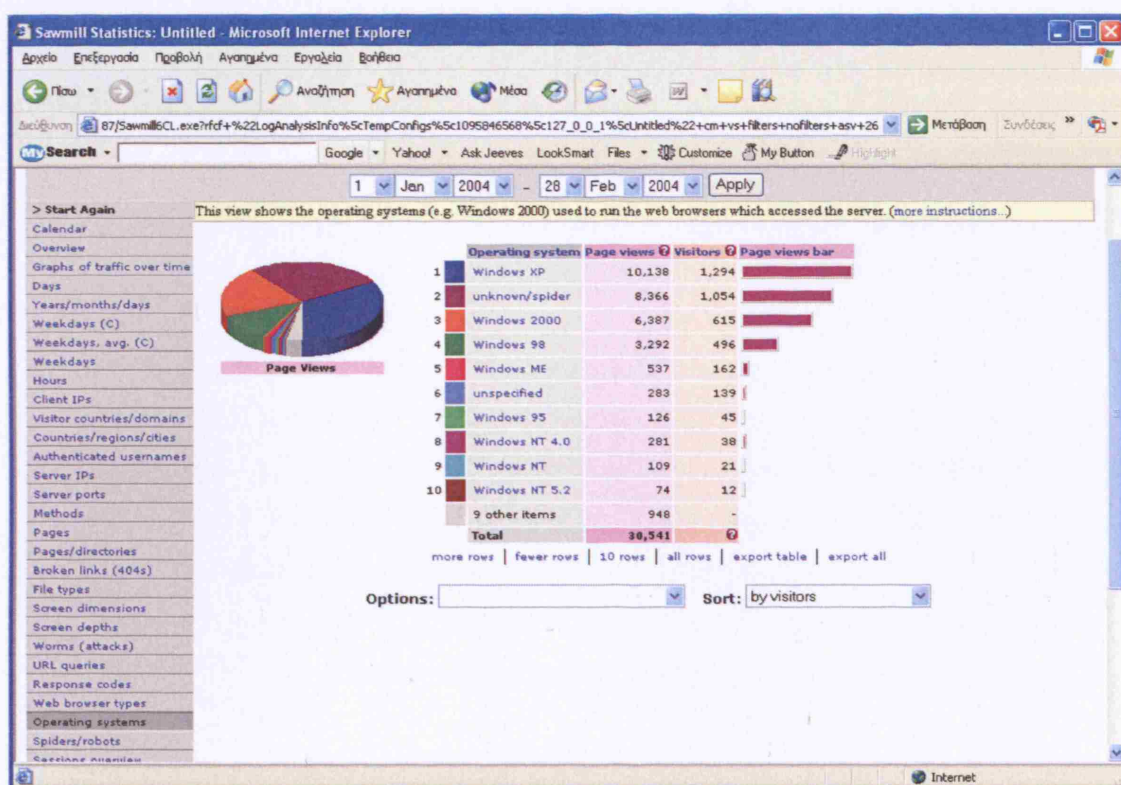


**Figure 6:** Application of Sawmill web log analyzer on Infoquest Computer A.V.E.E. logs dating 1/1/2004 to 28/2/2004 reporting the most requested web server page or directory

Nicholas’s doubts are technically supported and strong and could bring the whole structure of web log analysis down. However, far from having such intensions he is among those to recognize its real value in developing eCommerce strategies. The results of his many years of experience are articulated in the following quote:



“... [With] log analysis it has proved possible to monitor the use of a system by hundreds of thousands of people. This is a far cry from some of the assessment and monitoring methods of the recent past, which were based on small and unrepresentative samples (a few dozen ‘tame and pliant’ OPAC users – students, academics and library users typically). Logs record use by everyone who happens to engage with the system, there is no need to take a sample. The great advantages of the digital logs are not simply their size and reach, although the dividend here is indeed a rich and unparalleled one. Just as important is the fact that they are a direct and immediately available record of what people have done: not what they say they might, or would, do; not what they were prompted to say; not what they thought they did (the traditional domain of questionnaires and focus groups). This is especially important in an area, like digital information use, where issues are complex and people are all too easily shoehorned into answers manufactured by researchers employing questionnaires and the like” (Nicholas *et al.*, 2003b).



**Figure 7:** Application of Sawmill web log analyzer on Infoquest Computer A.V.E.E. logs dating 1/1/2004 to 28/2/2004 reporting clients' operating systems

## 2.7 Discussion

It is beyond any doubt that internet and eCommerce technologies and subsequently their usage and growth is one of the trendiest themes to discuss the past few years. Evidence is plenty in the international literature with a large and increasing number of papers presented in conferences or published in journals even not directly related to these technologies. Furthermore, despite the fact that opinions, beliefs and thoughts vary significantly among scientists, scholars and professionals as no particular standards have

been completely formed yet, it is also true that bits and pieces, elements in general, of what could be considered as a move towards standardization is also visible.

An effort was made in this chapter to present as many of these elements and opinions, thoughts, guidelines from the international literature. The author does not claim, of course, that all different aspects of internet and eCommerce technologies were analyzed and detailed but, arguably, the core elements of were. They will be used in the methodology chapter coming up next as the bricks on which the research methods followed were built.

# Chapter 3: Methodology

## 3.1 Introduction

Past and present studies conducted in Greece have followed mainly quantitative data gathering methodologies. The results were, usually, great loads of data that just recorded the problem of relatively low internet usage and negligible eCommerce activity growth in the country as seen in the previous chapters. Since the beginning of this study, one thing has been clear: the methods used should yield not only quantitative data describing the numbers of internet users in the country, how much and how often they use the internet and for what purpose and the like. It should focus in digging much deeper into such qualitative issues as why the local people hesitate to engage in eCommerce activity, what should be done on the part of the online businesses to attract them, if that is possible, what kind of products and/or services they would be more eager to purchase online etc. The goal, in other words, was not to reach a conclusion as if there is a problem – a thing that everyone in the country knows anyway – but to identify the reasons causing the problem and suggest possible ways to overcome it and move forward. For this purpose, a mix of quantitative and qualitative techniques was used.

Fortunately, there is an arsenal of research tools and methods available that when used properly may produce quite informative quantitative and qualitative results for the decision makers, be they business people or government officials. These include on- and off-line questionnaires (surveys), observations usually based on predefined or designed evaluation templates, interviews, focus groups and transaction log analysis. The decision as to which one (or more) is appropriate depends mainly on what kind of information one needs. It is quite frequent that more than one method is used for research in each case.

## 3.2 Research methods used

Four methods were used for this study (Table 3.1 below):

1. In-person and telephone interviews of a number of executives of medium-large companies in the country,
2. Evaluation of the eCommerce solutions (and their web sites) by information and communication technology experts and consumers based on a certain template especially designed for this purpose,
3. Off-line questionnaires targeting the general public and not just internet users,

4. In-person and telephone interviews of a small number of executives of web designers/developers in order to investigate the state of the deployment and utilization of the log analysis technique on the eCommerce solutions in the country.

<b>Type of sample population</b>	<b>In-person and phone interviews (qualitative)</b>	<b>Evaluation based on a template</b>	<b>Off-line questionnaire (quantitative &amp; qualitative)</b>	<b>In-person and phone interviews with web designers (qualitative)</b>
Business executives (Management, Marketing, ICT)	(Oct. '04/ Feb. '05) (25 companies, 57 interviews)			
eCommerce solutions of 232 Greek medium-large companies and corporations (by ICT)		(May 05/ Jun. '05) (232 web sites/ 232 companies)		
Consumer preferences, attitude and behavior towards internet and eCommerce practices			(Dec. '05/ Mar. '06) (158 off-line questionnaires)	
eCommerce solutions of 6 Greek medium-large companies and corporations (by consumers)		(May '06/ Jun. '06) (6 web sites, 15 evaluators)		
Business executives of Web developers				(Aug. '05/ Nov. '06) (20 web designers)

**Table 3.1:** Research methods used for each case study

This sequence of research actions was chosen for a reason. Bearing in mind the realities about internet usage and eCommerce activity in the country, the study sought to discover business executives' opinions as to why the situation is what it is, their understanding of how things should be and what changes should be made to achieve goals. All this data, mainly qualitative, could not possibly be gathered using on- or off-line surveys as the vast majority of these people, being very busy, would probably not even bother to answer. That is why an interview with them was the instrument of choice for this part of the study.

Then, an effort was made to examine how the executives' decisions/opinions were realized in their respective companies' eCommerce solutions. For this reason, a web site evaluation template was designed based on the relevant experience of professionals and academics worldwide. This template was the basis on which the web sites of a sample of all types of medium-large companies were evaluated first from a technical point of view and then from a user perspective.

Later, an off-line questionnaire was given to be filled in by a small but adequate and representative number of people from different backgrounds, education, areas within the city of Thessalonica, and income. Although initially the suggestion was to have them fill in an on-line survey, the idea was quickly abandoned due to the vast majority of the local population without an internet connection or even interest for that. The goal was to find the opinions of a sample of all the consumers and not just the internet users.

Finally, an investigation took place in order to find the state and standing of the utilization – or not - of the log analysis technique suggested by leading academic authorities worldwide. For this reason, the managers of web site developers in Thessaloniki were interviewed in-person or by telephone in an effort to find whether the methodology is applicable in the case of the companies in the Northern Greece. They were also asked to reveal whether there is any interest on the part of the companies to follow such organized procedures in order to make their eCommerce solutions more attractive to their customers.

### **3.2.1 In-person and telephone interviews with business executives**

Interviews, either in-person or by phone was the instrument of choice for this first part of the study for two reasons. First, the type of professionals and their rank in their respective companies did not leave much room for optimism in the case a questionnaire was sent to them. Being as busy as these particular individuals were, it would be very unlikely that they would even look at it and far less likely to seriously consider answering it. Chances were much greater if they were asked to be interviewed and indeed that was the case. Second, many of the executives were keen to discuss several problems further and provide additional information invaluable for the study. During the preparation of the interviews it was decided to avoid open-ended questions and choose closed questions instead in order to have measurable data (Cooper and Schindler, 2006).

After piloting the interviews it was clear that explanations of the various issues covered and terms used were needed especially as the executives interviewed did not have the

same background. Furthermore, it must be noted that at the end the interviewees were given the opportunity to comment freely on the situation of eCommerce in Greece. The main purpose of the in-depth interviews was to understand and interpret the companies' high ranking executives' opinions about the eCommerce related issues examined. In that sense this part of the study was exploratory in nature mostly based on qualitative elements but including a small number of quantitative elements as well. The interviews were based on a structured questionnaire with measurable answers (Cooper and Schindler, 2006).

This study started in October 2004 and lasted until February 2005. The interviews were all the same regardless of whether they were face-to-face or by telephone. Each lasted between 25 and 45 minutes. The reason behind this significant variation was the need on several occasions either to translate from the English version or explain some of the issues/terms discussed.

The data gathered from the interviews were entered in an Excel spreadsheet, tabulated, and used to produce various charts that illustrated executives' perception about the issues related to eCommerce mainly in the country but also internationally.

### **3.2.1.1 The Sample**

A sample of 25 medium or large companies from the greater metropolitan area of Athens and that of Thessaloniki was used for this study. The goal was to discuss with the executives from the companies "[that] influence the economic and business environment in the country, a task left to the executives of the very few but powerful large companies in Greece" (Vlachogiannis of TIM Hellas, interview, January 2006). For the sample to be representative, the classification of companies in 12 sectors followed by several European Union institutions (ebusiness-w@tch (2003) was also used here with 1 to 4 companies representing each sector (table 3.2). An effort was made to have an equal representation of 3 companies per sector but this was not possible as there were a number of executives from about 11 companies who, although reached and asked were unwilling for various reasons to participate in the study. Thus, convenient sampling was the method followed based, however, on the aforementioned basic criteria.

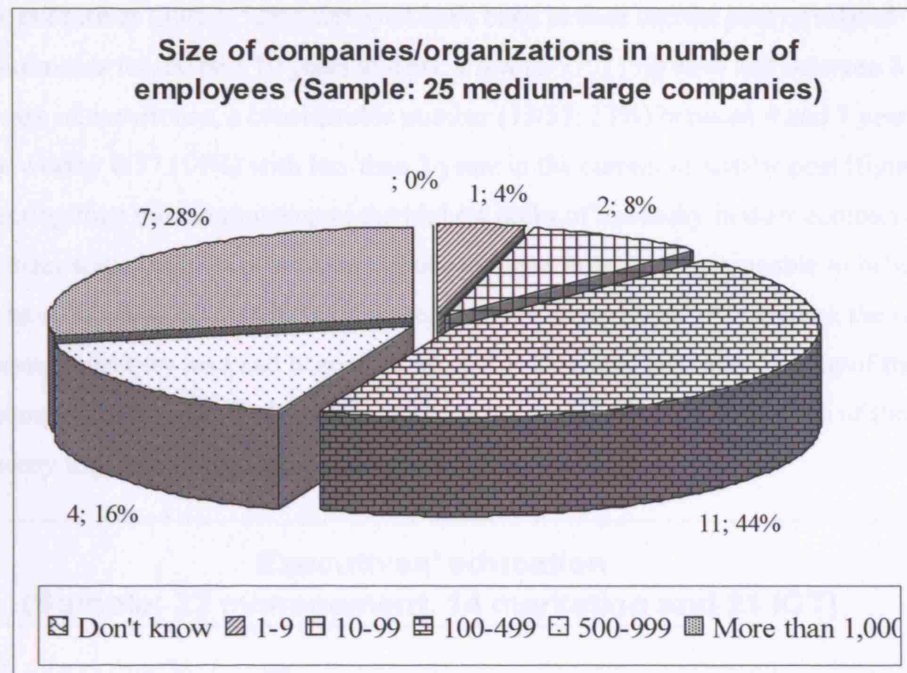
Mainly companies in the Athens Stock Exchange as well as those with human power between 100 and 500 were considered for the study together with 3 smaller ones. These represent the so-called medium and large sized companies in the country. Out of these companies, 7/25 (28%) were more than 1,000 employees in size, some 4/25 (16%) with



between 500 and 999 employees, the majority 11/25 (44%) having 100-499 employees, and just 3/25 (12%) with less than 100. Figure 8 illustrates the breakdown of the sample in categories based on their size in number of employees verifying these are medium-large companies in their respective fields.

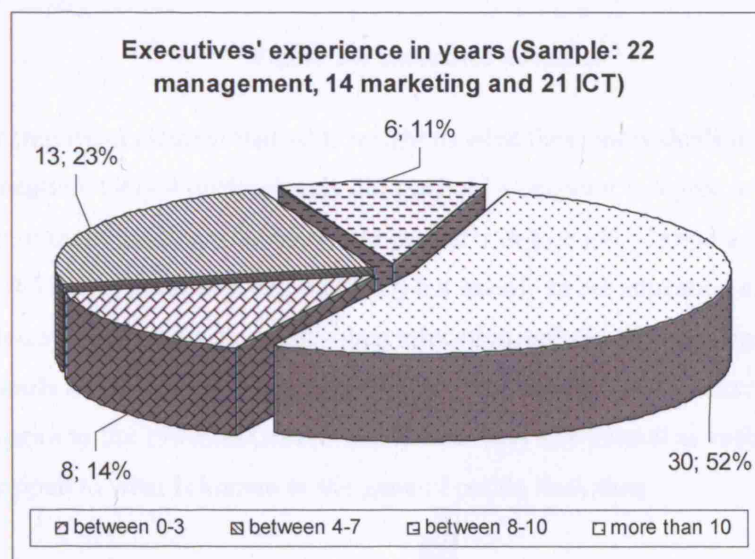
<b>The sectors and organizations of the study</b>	
<b>Sectors</b>	<b>Names of companies/organizations</b>
1. Food, beverages and tobacco industry	1. Greek Sugar Industries, 2. ALCO, 3. AGNO (Dairy)
2. Transport equipment manufacturing	4. Renault Robopoulos
3. Financial sector	5. National Bank of Greece
4. IT services	6. OTENET, 7. Byte Computer A.E.V.E.
5. Communications & Telecommunications services	8. TIM, 9. Q-Telecom, 10. Telepassport,
6. Health & Social services	11. Inter-Balkan Health Centre of Thessaloniki, 12. Papanikolaou Hospital
7. Media & Printing	13. Macedonian News Agency (newspaper), 14. Macedonia – Thessaloniki (newspaper)
8. Metal/machinery manufacturing – Mineral & Cement	15. TITAN S.A., 16. Kleeman
9. Education	17. Aristotle University Thessaloniki, 18. University of Macedonia, 19. New York College, 20. DEI College – Paster Institute for Vocational studies
10. Retail	21. Papasotiriou Bookstore, 22. Eikona & Ichos
11. Tourism	23. Macedonia Pallas (hotel), 24. Kempinski (hotel)
12. Government	25. Prefecture of Thessaloniki

**Table 3.2:** The sectors and organizations/corporations of the study



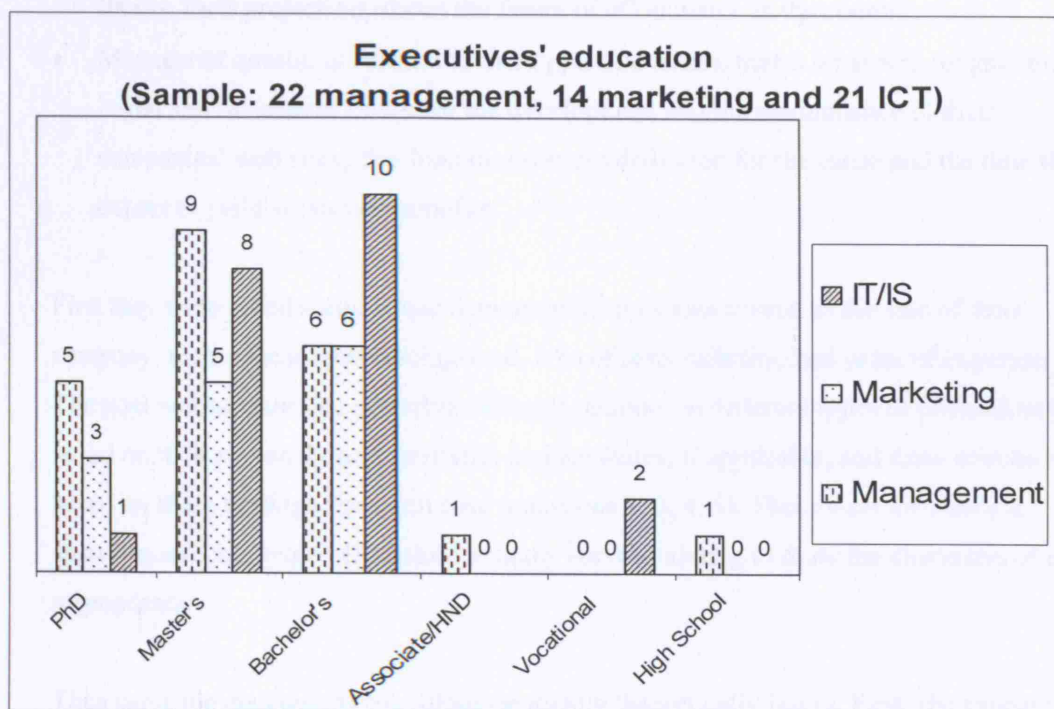
**Figure 8:** Size of companies/organizations in number of employees

As to the particular individuals interviewed, the opinions and views of the management, marketing and information technology executives were only sought as these are the ones making the decisions related to eCommerce. As explained in the previous chapters all the rest employees in every company, including the higher level clerks, are just implementing and executing policies and decisions from the top management. A total of 57 interviews were made for the survey, 22 with management executives, 14 with marketing and 21 with IT/IS experts. A number of companies (14/25) were represented by either 1 or 2 persons because of the centralization of decision making (marketing, management, IT/IS, and other).



**Figure 9:** Executives' experience in years

Most executives (30/57; 52%) surveyed have been in their current post or related appointments for the past 10 years at least, a few (6/57; 11%) have had between 8 and 10 years of experience, a considerable number (13/57; 23%) between 4 and 7 years and a noteworthy 6/57 (14%) with less than 3 years in the current or similar post (figure 9). Assuming they did not move up to the highest ranks of hierarchy in their companies but only after some years of proven experience at lower levels, it is reasonable to believe they have much more working experience than the above stated. Also, given the size of the companies they lead and bearing in mind that they represent every sector of the local economy it is quite justified to claim they are the ones that move the strings of the economy together, maybe, with the local governments.



**Figure 10:** Executives' education

Another important element that adds weight to what these individuals have to say is their education. Only 4 professionals did not hold a bachelor's degree or above, the vast majority of them holding a bachelor's or master's degree (44/57) and a significant number 9/57 with a research degree (PhD) but mainly in the education sector (2 respondents preferred not to specify their education and experience) (figure 10). The reader needs to keep in mind that getting a good education (i.e. a Master's or Research degree) prior to the 1990s in Greece was neither easy nor normal as such education was not very open to what is known as the general public back then.

Figures 9 and 10 prove the quality, at least in terms of education and experience, of the decision makers of companies in Greece.

### **3.2.1.2 The interviews**

The executives were asked (see Appendix B) three different kinds of questions:

- Demographic questions,
- Managerial questions related to theoretical issues, that is, about the rationale behind their decision to engage in eCommerce and the driving forces that lead them, their views on what “success”, “failure”, “competitive advantage” really means, the scope of their strategies, their opinions about the role of eCommerce in the company and, finally, their projection about the future of eCommerce in the country,
- Managerial questions related to more practical issues, that is what was roughly the initial and the annual costs for the development and the maintenance of their companies’ web sites, the human resources dedicated for the cause and the time they expect to yield whatever benefits.

First they were asked some basic demographic questions related to the size of their company, their educational background, area of responsibility, and years of experience. The goal was to associate possible different opinions to different types of professionals based on their personal characteristics and attributes, if applicable, and draw conclusions based on these findings for each case (questions 2, 3, 4, 5). These were all multiple answer questions frequently asked in many surveys aiming to draw the characters of the respondents.

Then came the managerial questions on mainly theoretical issues. First, the executives were asked about the rationale behind their decision to engage in eCommerce (question 6). More specifically the interviewees were suggested 7 different opinions, thoughts, or directions of influential, famous and successful academics and professionals worldwide in the field of eCommerce:

- “In 5 years all companies will be eCompanies or they will not exist at all” (Andy Grove (Intel Corporation), 2000),
- “By 2010 the only big companies will be eCompanies” (Chambers (Cisco), 2000),
- “Companies have no choice if they want to stay competitive but to engage in eCommerce” (Porter, 2001),
- “It is necessary to form and follow an eCommerce strategy before engaging eCommerce” (Porter, 2001),

- “It is wrong to believe that all business activities are done better using the web” (Mahoney, 2002),
- “The only way to get rich on the internet is to sell drugs or porn or the like” (Mike Rounds, 2003),
- “There is no real benefit/profit in engaging in eCommerce (general statement)

They would rank the answers above on the Likert scale from 1, if they did not agree, up to 7, if they agreed the most. The key point of all these questions was that the identities of the people suggesting the answers were not revealed until the question was fully answered. The goal was to examine whether there is any difference in the general business mentality related to eCommerce among Greek business executives and those in the developed digital countries as detailed in section 2.3.1 of the previous chapter.

Next, they were requested to identify the driving forces that lead executives to the decision to engage in eCommerce (question 7). The interviewees were given the most commonly referred motives, explained in the international bibliography as they were presented in the literature review (section 2.3.2). They had to select the ones they agreed with more or less from the following list:

- Government incentives,
- Pressures from suppliers or other business partners,
- Customers demanding to deal on the internet,
- Need to increase the value/status of the business,
- Orders from top management,
- Industry changes and trends,
- Opportunity to expand and grow,
- Threat of large competitors taking the business,
- Threat of new competitors taking the business,
- Need to keep up with existing competition.

Additionally they were requested to isolate the most important of all motives they selected initially. The aim was to explain the reason(s) of this engagement in an effort to suggest possible business initiatives and/or take corrective actions, if needed, of the existing initiatives towards increasing the population of the businesses interested in getting involved. Similar question, only with opposite ideas and meaning was question 9 referring to the barriers/obstacles possibly causing them to refrain from eCommerce.

After that the participants were also requested to interpret the terms “success” and “competitive advantage” in the context of their own business (question 8). Once again a number of suggested explanations of the aforementioned terms were given (explained in

section 2.3.4) from the economics-/management-/finance-related fields a list of them following:

- Reduction of the human- or other- resource costs and processing time associated with a transaction,
- Improve or innovate products and/or services, enrich the existing with value added,
- Serve existing customer base better, expand the customer base either through eMarketing (email, eCatalogs, etc.), or open new markets,
- Stabilize, protect and even increase financial profits (i.e. share's value, or high flow of incoming cash).

Similarly, they were given a list of suggestions (question 17) to select as to what “failure” means for their company:

- Poor revenue, cost and profit model,
- No competitive advantage,
- Lack of benefit to customers,
- Problems in organization and execution,
- Ineffective management and fulfillment,
- Conflicts with existing business partners.

The goal in both previous questions was to understand Greek executives' “hopes” and “fears” associated with eCommerce deployment.

Later, the participants were suggested to select any group of individuals that contributed anyhow to the development of the eCommerce strategy and or its implementation into a web site (question 10). The list of the suggestions included the shareholders, the top management, the department managers, the marketing executives, the information and communications technology experts and the rest of the staff.

Last, as to this type of questions, the issue of whether eCommerce will affect their companies and how, was raised (question 19). Once again they were given a list of choices (explained in detail in 2.3.4) to select from:

- eCommerce will transform the organization,
- the internet will be central to the business strategy of the company,
- eCommerce will support major growth thrusts,
- new products and/or services will exploit the internet,
- eCommerce will cause minor changes in the way of working,
- there are no significant plans to expand to eCommerce.

Closely related to the above was question 20 that intended to find their opinion about eCommerce as a practice used by Greek businesses with a local or global scope. The

participants were left to select all the suggested answers they believed would apply in their company's case. The list of them is below:

- it is going to change the way of doing business in the future,
- an underemployed tool that could help companies achieve their strategic goals,
- helps the integration of businesses through better organization of available resources,
- consumers don't really appreciate and make use of it,
- an overestimated tool that can't produce the results (financial, marketing, or other) expected.

The third kind of questions had a more practical character as its target was to reveal certain facts related to the type of financial and other investments made towards eCommerce and the expectations from it. The first one in this category (question 11) was to find the type of the eCommerce solution developed based on the 5 stages frame presented in section 2.3.3 of the previous chapter and listed below:

1. No web site at all,
2. Marketing/informational,
3. Publishing/eCatalogs,
4. Transactional,
5. Interactive.

Then, an attempt was made to find out the initial (question 12) as well as the annual costs (question 13) associated with the development, deployment and maintenance of their web site. In the first case some ranges of costs were given as suggestions, namely less than €1,000, €1,000 - €5,999, €6,000 - €29,999, €30,000 - €149,000, €150,000 - €600,000, and more than €600,000. In the second case, instead of an actual number, a percentage is suggested of the respective annual costs as compared to the overall budget of the company. The idea was to examine how seriously businesspeople intend to invest in the respective technology and whether they realize the maintenance costs needed to spend on such an undertaking. Quite similar question to the previous was the one through which the author sought to find the investment in human resources devoted to the task of developing and/or maintaining the web site (question 15). Again, instead of actual numbers the participants were asked to select a percentage that represents the number of individuals assigned this task compared to the overall human power of the respective company.



The scope of the eCommerce strategy implemented was the focus of question 18. The goal was to find whether the web sites of the executives' companies aimed to attract interest from people local to the specific region in the country or the whole country, the greater Mediterranean and/or the Balkans area, or more widely to people and/or businesses within the European Union or even the globe (international scope, no geographical boundaries). Apart from the obvious, that is to find the scope of the eCommerce strategies, another reason for asking this question was to see if the investments are justified by the whole scope of the undertaking.

Finally, the executives were asked how long they believed would be long enough to see the results of the eCommerce deployment (question 16). In other words, how long would they wait for whatever benefits to yield before they start having second thoughts about the necessity and viability of their online strategies? The suggestions they could select from are listed below:

- Less than a month,
- Between 1 and 6 months,
- Between 6 months and one year,
- Between 1 and 3 years,
- More than 3 years.

The main purpose of this question was to find how reasonable the expectations, in terms of time, of the executives are.

At the end, outside the frame of the entire structured interview analyzed just previously, the participants were given the time to freely express themselves through a general comment on the situation of eCommerce in Greece. There were no limitations as of what to say as long as it was about anything worth noting they found related to eCommerce in Greece or internationally that were not asked about.

### **3.2.2 Web site evaluation from a technical viewpoint**

Another methodology was to evaluate companies' web sites in order to verify whether or not these follow the basic international guidelines and standards. An evaluation template should and could be designed for that purpose based, preferably, on a number of questions and a set of predefined standardized answers of a numerical or other measurable scale so that results may be analyzed. In the case of the web site evaluation, of this second part of the study, an extra effort was made to have answers of a binary nature, i.e. yes/no or true/false. The goal in this case was to put the web sites in ascending or descending order based on the resulted value after the evaluation.



In order for the sample of the web sites to be as representative of the Greek companies as possible, the same listing of the 12 sectors as in the previous part was followed only now 3 more were added to match the categorization in the Athens Stock Exchange:

- Chemical Industries,
- Insurance & Pension funding services and
- Business Services.

In the study, the web sites of 232 medium-large companies from the 15 sectors of the Greek economy, public and private, either “local” (Greek) or international with subsidiaries in the country, were randomly selected to be evaluated (a list of the web sites is available in appendix C). Medium-large companies were selected because they shape the internet environment in Greece by investing the most in the new digital technologies, aiming to utilize them in the best possible way (as explained in detail in the Introduction chapter). They were found via [www.presspoint.gr](http://www.presspoint.gr) and from the *Greek Financial Directory* which lists companies registered in the ASE (Athens Stock Exchange) sorted by sector.

It took between 15’ and 20’ to evaluate each site and the evaluation period started on 11/5/2005 and ended on 30/6/2005. The answers to the evaluation questions were quite straightforward, almost binary in nature, a fact that simplified the process. In several cases during the evaluation, i.e. appropriate and appealing, the author found it was somewhat subjective to determine/measure the web site, as to this particular element, but in broad lines the decision was in general agreement with what any person would value as an appropriate and appealing Web site. This holds true despite the fact that people coming from different backgrounds may view this issue under another perspective.

The evaluation template designed and used for the specific part of the study consists of a number of dichotomous questions answered with a “yes” or a “no”, “yes” always meant as a positive answer. The questions are divided into four categories (appendix D) and a full explanation of each of them is given in the relevant section in the Literature Review (previous chapter).

In the stickiness category of the web site elements general and specific design issues are addressed:

1. The lack of tendency to use scrolling mechanisms,

2. The hyperlink placement/style, i.e. their accessibility, whether floating or not, their font properties, whether they are easily identifiable or not,
3. The hyperlink target/content, whether it leads to relevant pages (as opposed to dead end pages),
4. The presence of any type of site map, for example site tree diagram, drop-down menus, etc.,
5. The web site interface attractiveness, the absence of distracting and annoying elements,
6. The quality of the information provided in terms of the credibility of the person signing and updating it in a timely manner, as well as completeness of the information and ease to find desired information,
7. The presence of communication and feedback mechanisms including email links, online surveys, feedback forms, on-line help, etc.

The questions in the customization and globalization part of the template examine the web sites' design strategy concerning targeting whole populations and/or individuals both in terms of languages supported and in terms of colors and other graphics used. More specifically, the following issues are addressed:

1. Languages supported: the languages traced are English, Spanish, Chinese, French, German, Greek, Turkish, Arabic, Hebrew, Japanese,
2. Colors used: whether the web site color is related with the cultural background of the targeted population or not,
3. Briefing on import/export: and information provided concerning import, export and taxation issues, any restrictions applied and possible list of countries,
4. Customization level: six levels ranging from no customization to a complete a comprehensive set of customization features of 5 different types (appendix C),
5. Payment and shipping/billing options: whether there is a list of different payment options available with detailed description in each case, if there is a currency converter, the use of the universal "postal code" instead of the regional "zip code".

Accessibility, availability and hard/software questions test whether the web sites are accessible from different platforms, by different users with – perhaps – health problems or other abnormalities, or what the system requirements were both in terms of hardware and in terms of software.

Finally the security and/or privacy category examines whether the developers considered the sensitive issues of security and privacy. Technical details, if applicable, are traced:

1. Whether an authentication process was in place, security mechanisms (SSL, SET, others) were utilized to protect on-line transactions, on-line anti-virus scanning devices were installed, or automatic expiration of the web sites was projected,
2. The actions taken in order to ensure the privacy of the customers, including avoiding the use of tracking/identifying mechanisms like cookies or spy-ware without the consent of the user, clarifying privacy policies through privacy statement, masking email addresses through scripts, forms, etc.

One aspect found to be problematic was the measurement of the *time availability* of a web site. This would be possible by monitoring the site's online status on a 24/7 basis or alternatively by examining a detailed specification and possible the logs files of the hosting server. Human resource and time constraints of this part of the study prohibited us from doing the first. Furthermore, the fact that the server and network specifications and/or their log files were not available to us did not permit to follow the second path.

### 3.2.3 Web site evaluation from a user perspective

A very similar methodology to the previous evaluation was followed in the third part of the study. This was an experiment aiming to identify the differences, if any, between what a technical expert would perceive as a good web site and what a user would. Only six (6) companies' web sites (table 3.3), out of the original 232 used in the previous part, were selected for practical reasons related to time constraints. Assuming a maximum time of thirty minutes per site, this means three hours spent in front of a PC for each participant of this study for the 6 web sites. Even this much time was a burden for the researchers in finding participants and one could only imagine the impracticality of asking participants to evaluate all 232 of them.

#	Company	Web site	Rating	Score
1	Vodafone – Panafon S.A.E.T.	<a href="http://www.vodafone.gr">http://www.vodafone.gr</a>	Good	32
2	Forthnet S.A	<a href="http://www.forthnet.gr">http://www.forthnet.gr</a>	Good	28
3	Datablue S.A	<a href="http://www.datablue.gr">http://www.datablue.gr</a>	Average	20
4	Telepassport Hellas	<a href="http://www.telepassport.gr/">http://www.telepassport.gr/</a>	Average	16
5	Motor Press Hellas AEE	<a href="http://www.chip.gr/">http://www.chip.gr/</a>	Bad	13
6	Cardisoft S.A.	<a href="http://www.cardisoft.gr/">http://www.cardisoft.gr/</a>	Bad	1

**Table 3.3** – Sample of web sites evaluated by users

The process to select 6 out of 232 Web sites for the user evaluation was performed in such a way so as to have an unbiased sample even with 6 Web sites only. Therefore, the selected sample would include two good, two average and two bad sites. The original evaluation study rated web sites with a maximum attainable score of 53 (100%), which was the number of questions in the template (appendix C). A perfect site would ideally score 52 but the highest score attained was 32 due to the absence of a number of eCommerce features such as site maps. Therefore, the author defined a good web site as one having the highest site score of 32 (out of 52). A bad site was defined the one which scored the least points in the original evaluation, namely 1 out of 52. For an average Web site, the number 16 was used, again based on the original study results where the average of scores was 16. This selection process filtered three Web sites while the remaining three (to reach six in total) were selected as the ones whose score was as near as possible to good, average and bad. The resulting scores were 28, 20 and 13 accordingly.

Fifteen (15) users were assigned the task of evaluating the selected Greek Web sites in groups of 2-3 in order to allow communication between users so as to share some basic understanding of tasks at hand in an attempt to reduce time and effort from their part. The document containing the web site evaluation questions was passed on to each user containing the name and URL of each website, followed by the evaluation questions. The participants were asked to visit each site and answer as many questions as they could. The users (table 3.4) were selected based on their professions or fields of study so that users would not be directly related with the Information Technology sector and would not have extensive knowledge of the internet, networks, or computer science issues and with the goal of as much profession diversity as possible. Only Greek and Greek/Cypriot individuals, male or female, were approached to participate in order to ensure a match between users who share the same culture, language and religion with the target audience of the Greek Web sites. Convenient sampling was the method followed for the selection of the individuals for this part of the research given the aforementioned basic criteria. Given the fact that the author is part of the academic environment it was more convenient to find individuals close to that environment, either postgraduate or research students, to take part in this experiment, hence the age of them which was lower than 30. The participants received the evaluation questions with brief instructions on how to best complete it and were encouraged to consult the researchers in the event they encounter difficulties.

Unfortunately, throughout the evaluation, a number of limitations and problems appeared. First, it was not possible to provide each of the participants with a different type of computer or electronic device and operating system so that they could answer the questions on accessibility and hard/software requirements. Therefore, the users were left to decide intuitively about the answer to the relevant questions. Another problem that was identified in time concerned the last web site from the sample of those to be evaluated. The specific URL had ceased to exist and the domain was for sale as well. To resolve this issue, the next “bad” web site was chosen to replace the non-working one. Table 3.3 above is the updated version of the sample of the web sites after the replacement.

The average time for a single web site evaluation was about 25’, below the initial assumption of the researchers, which was about 30’ at most. The average time for a complete evaluation of six web sites was about 2.5 hours, quite reasonable considering the users’ knowledge on the subject.

<i>User</i>	<i>Sex</i>	<i>Age</i>	<i>Work Title/ Field of Study</i>
#1	F	23	Coastal Engineering
#2	M	26	Dentist
#3	F	25	English Literature
#4	M	27	Management
#5	M	25	Electronics
#6	M	25	Electronics Engineer
#7	M	26	Biology
#8	F	28	Greek Language & Literature
#9	F	25	Mathematics
#10	M	28	Electronics/Medical equipment
#11	M	26	Electronics engineer
#12	M	24	Electronics programmer
#13	M	24	Automatist
#14	F	22	Arts & design
#15	M	24	Mechanical engineer

**Table 3.4:** Sample of users evaluating the 6 Greek web sites

### **3.2.4 Consumer preferences, attitudes & behaviour towards internet and eCommerce**

The fourth part of the study was both quantitative and qualitative in nature. It concerned the Greek consumers’, digital or not, attitude towards the internet and

understanding of its role in everyday life but, also, the behavioral patterns and preferences during the execution of an e-commerce transaction. An off-line questionnaire (refer to appendix E) was the selected instrument in implementing this research, with a total of 158 questionnaires filled out, 28 of which were completed during the pilot survey. The survey took place between December 2005 and March 2006. During the pilot study, the first couple of weeks, the questionnaire had been changed twice, aiming at clarifying certain points.

In this part of the study, an attempt was made to obtain enough samples from different demographic groups based on age, gender, education, occupation, expertise, income and credit/debit card holding. In order to have unbiased data and statistics, different locations were selected to run the survey. Schools and universities were the places to find young students and educated academic people. Households were visited for middle aged and retired people, and by choosing different areas in the city, different income groups were included in the sample population. Work places such as public or private companies gave some responses from employees with different kinds of expertise. Hospitals were a reference place for medicine and medical-related practitioners and staff. Religious places, cinemas and cafés, even clubs were the places where different kinds of people were found. Any available individual who agreed to participate was part of this convenient sample (Cooper and Schindler, 2006, p. 204).

The questionnaire of this research consisted of three main parts. The first included personal questions targeting to help divide the sample into different categories based on demographic characteristics. It consists of 7 questions:

- Age: divide the people into five different groups (18-25, 26-33, 34-41, 42-50 and over 50) that, as suggested by the literature worldwide, are those among which behavioral patterns and attitudes towards the information and communications technologies seem to change (question 1),
- Gender: divide the respondents in male and female groups in an attempt to find different patterns based on this attribute (question 2),
- Education: compare consumers' preferences and attitudes based on their educational level as it seems that the more educated a person is, the more likely they are to engage in eCommerce activity; worldwide statistics (as seen in the previous chapter) prove the opposite is also true (question 3),
- Occupation: the purpose of this question was to find if a consumer's occupation has anything to do with internet usage and eCommerce behavioral patterns (question 4),

- Expertise: the idea was to find how close or far people with certain backgrounds are with respect to internet usage and eCommerce activity (question 5),
- Income: test whether the hypothesis that the likelihood for eCommerce transaction increasing with income, which is a proven fact by global experience, applies in the case of Greece as well (question 6),
- Card holding: finally, bearing in mind that eCommerce transactions are usually made using credit or debit cards, a clear picture of the percentage of the people with such cards would help considerably in shaping a pattern (question 7).

The second part, issues related to internet usage, is a small but quite important section of 2 questions aiming to categorize people with respect to their average total internet usage and the reason for using the internet in their purchases if any (questions 8, 9).

In the third part, questions 10 up to 16, mainly qualitative elements were sought to find. More specifically:

- question 10: seeks to find whether the respondents are credit/debit card holders an element quite essential for any online transaction to take place,
- question 11: examine how many of the respondents had engaged in an online transaction in the past and possibly compare it with the response on the question of whether they are willing to repeat it in the future,
- question 12: respondents were asked to select from a list all those products or services they would be willing to purchase or hire online in an attempt to see how their preferences match with the international experience,
- question 13: explores the obstacles/barriers that block consumers from engaging in eCommerce activity aiming, possibly, to find the reason behind this stagnation,
- question 14: looks into consumers' preferences while online in an attempt to find how they feel about online companies in Greece and/or internationally,
- questions 15 and 16: target to extract from the participants the names of those web sites Greek (q. 15) and international (q. 16) they recognize and prefer more.

### **3.2.5 Survey on the identity and practices of the web designers in Greece**

Initially, the idea was to have the log files and the databases of the customers of a couple of large companies and follow deep log analysis methodology to compare and contrast its results with the consumer preferences survey previously explained. A rather long period of 8 months time (between May and December 2005) was wasted on this effort before the author realized – with some outside help indeed – that this type of

methodology and its tools are not really utilized in Greece. The reason for this “failure” was the false assumption from the part of the author that the executives were not willing to share their companies’ log files and databases. This false assumption was derived by the various types of “excuses” given in order to justify the lack of willingness to provide this type of data, e.g. “the data is protected by personal privacy laws”, “we are not legally authorized to release such information”, “the risk that our data might be given to our competitors is too big”, and several others. The author resigned from the effort only after he was strongly suggested that maybe he was refused the data because “there was no data to be given as nobody in Greece kept it for any reason”. This was the reason why it was, then, decided to make another survey of the web designers and see whether the log analysis, described and analyzed in the literature review, is being utilized by the executives in Greece and, if so, in what way.

This fifth part of the study, the smallest of all, was also quantitative in nature. The telephone interview was the instrument of choice. A small number of 20 companies specializing in web designing and/or hosting web sites were selected from the metropolitan areas of Attiki (Athens) and of Thessaloniki (12 and 8 companies respectively) (table 3.5). The interview was based on a structured questionnaire and the time required by the participants to answer the questions was between 10’ and 15’. The participants were the managers or highly ranking officers in their respective companies of the company sample, one from each. All this process lasted about 2 months between December 2006 and January 2007.

#	<i>Company (Large)</i>	#	<i>Company (Small)</i>
1	Hellas On Line	11	Webone.gr
2	DOL	12	TTT.gr
3	Forthnet	13	or@ma
4	Otenet	14	Alpha-web
5	Altec Web Design	15	Next-step
6	Tellas	16	Galaxynet
7	Heletel	17	Zefxis
8	Hellas internet	18	Ellasanweb
9	Telepassport	19	Cosmos
10	Vodafone	20	Graphics

**Table 3.5:** Sample of companies for the survey on the utilization of web log analysis



During each telephone interview, the participants were asked to answer to five questions:

- How many employees (or freelancers) are working for the company? The goal was to find the size of the companies involved in the process of developing eCommerce solutions,
- What is the number of their clients that requested a web site? By having an idea of the number of clients and their investment in eCommerce it is possible to suggest the viability of the plan to have a solid web designer company or conclude that things are done on an ad hoc basis,
- What is the percentage of the companies requested web sites in one of the five different categories, namely informative, publishing, transactional, interactive, comprehensive enterprise resource planning?
- What is the level of the clients' investment in eCommerce? The values range from €800 to more than €15,000,
- What kind of service do the clients request from the web design companies? This is the most important question of this fifth part of the study aiming at finding, really, what kind of service is requested most often and if the hypothesis that web log analysis is not utilized in Greece by the web designers as it is not requested by their clients is valid.

In the next two chapters the results of all the aforementioned methodologies, i.e. the surveys, the interviews and the web site evaluations, are presented, providing valuable insight as of the qualitative issues related to the negative, so far, prospects of eCommerce activity in Greece despite the substantial and rather rapid growth of the internet users' population. Also, in the next two chapters the quantitative elements of various surveys conducted in the country are verified and supported.

# Chapter 4: Findings Part I

## From the businesses' viewpoint

### 4.1 Introduction

No doubt what drives eCommerce growth in a country's economy is the consumers' behavior against the marketing strategies followed by online businesses. In that sense, any findings related to the consumers' preferences and attitudes are by far the most important elements to consider when interpreting the facts concerning eCommerce activity. However, consumers may only engage in eCommerce activity if local businesses offer their products and/or services online and, as described and explained in the literature review, to the extent that an online transaction is possible and secure. In that respect eCommerce practices and attitudes of the executives in Greece play a key role in shaping the local online market. Their decisions, and to the extent they materialize to proper eCommerce solutions and attractive web sites, heavily affect and trigger consumers' positive interest towards eCommerce. Once these two actors' thoughts, opinions and ideas are studied in this "findings" section it will be, then, possible not only to understand the problem of lack of eCommerce activity in Greece but also to suggest possible solutions. Due to the length of the section on the "Findings" it was thought more practical to split it into two parts. The following first part consists of four sections, 4.2 to 4.5.

In section 4.2 the author presents the results of the business executives' interviews concerning their understanding of the role of eCommerce, the strategies they decided to follow and the drivers leading them to engage in eCommerce. Additionally their definition of the controversial terms "success" and "competitive advantage" is given as well as that for the term "failure" of a business strategy. Finally, they were invited to say whether they were satisfied with eCommerce practices and activity in the country, if not who is to blame, what are the obstacles and/or barriers blocking progress towards it and their projection of the future of eCommerce in Greece. The objective of the section is to show whether these individuals' opinions are in line with the reported respective experience worldwide.

Section 4.3 delves deeper into executives' ideas, thoughts, and opinions about the details of their eCommerce solutions. It looks how they classify their own web sites based on the frame of stages a web site could be in as this was presented in the previous chapters. It, then, provides the results of the investigation on the scope of their online strategies as they see it and not necessarily as it really is and the costs, initial and annual, for the deployment, maintenance and support of their sites. Next, it describes what the executives feel about the amount of time required to see the results of their online efforts. Finally, it presents their freely expressed thoughts and opinions about eCommerce in Greece. The intention is to show how serious, conscious and determined the executives are in their attempt to get involved in the digital economy.

In section 4.4 a technical evaluation of the web sites of the local online businesses is provided based on a methodology introduced by the author especially for the cause. The results of the evaluation involve 4 different types of features or characteristics of the web sites, called dimensions, namely stickiness, globalization and customization, availability and accessibility and privacy and security. The main idea was to assess, to the extent that such an attempt is possible, how well the sites' functionality and appearance meet the international accepted standards of a "good" web site.

Finally, section 4.5 provides an analysis and discussion on the identification, practices and perceptions of the web designers/developers in Greece. It describes their sector, the nature of their customers, the type of services they provide and their respective cost. Finally, it refers to the problems they are facing explains why such techniques as web log analysis are not utilized by them as their customer do not make these kinds of requests.

## **4.2 Greek business executives' attitudes towards eCommerce**

A sample of 25 medium or large companies from the greater metropolitan area of Athens and that of Thessaloniki was used for this study. Of these, 7/25 (28%) were more than 1,000 employees in size, some 4/25 (16%) with between 500 and 999 employees, the majority 11/25 (44%) having 100-499 employees, and just 3/25 (12%) with less than 100. For the sample to be representative, the classification of companies in 12 sectors followed by several European Union institutions (e-business w@tch, 2003) was also used here (see table 3.2 in Methodology Chapter 3). Companies in the Athens Stock Exchange were considered as large companies and organizations whereas those with human power between 100 (or even less) and 500 were considered medium sized.

A total of 57 interviews were carried out for the survey, 22 with management executives, 14 with marketing and 21 with IT/IS experts. A number of companies (14/25) were represented by either 1 or 2 persons because of centralized decision making (marketing, management, IT/IS, and other). Most executives (30/57; 52%) have been in their current post or related appointments for the past 10 years at least, a few (6/57; 11%) had between 8 and 10 years of experience, a large number (13/57; 23%) between 4 and 7 years and a noteworthy 6/57 (14%) less than 3 years in their current or other similar post. Only 4 professionals did not hold a bachelor's degree or above, the vast majority of them holding a bachelor's or master's degree (44/57) and a significant number 9/57 a research degree (PhD) but mainly in the education sector (2 respondents preferred not to specify their education and experience). These numbers prove the quality, at least in terms of education and experience, of the decision makers in Greece as explained in the respective section of the Methodology chapter.

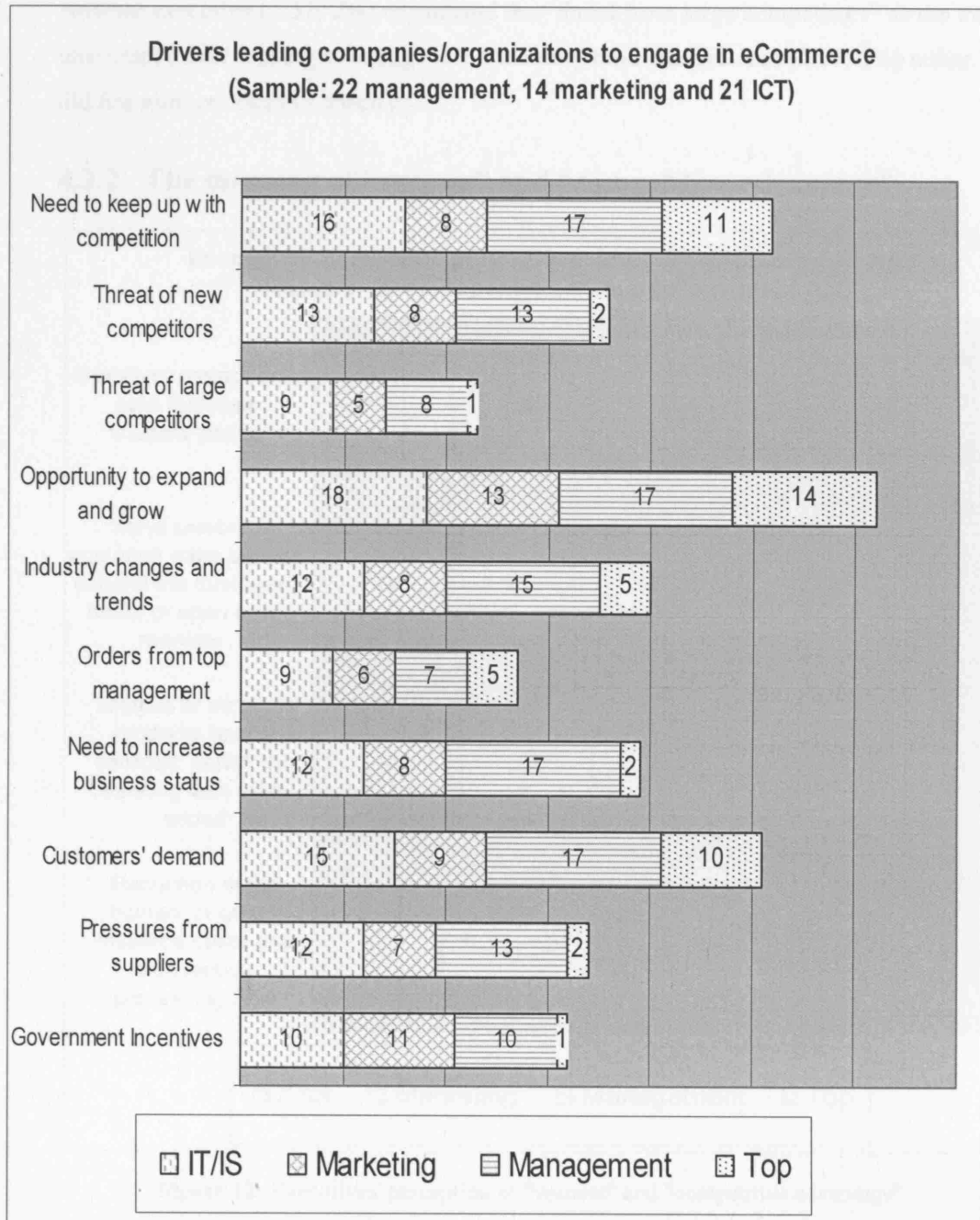
#### **4.2.1 Drivers influencing the decision to engage in eCommerce**

Executives were, initially, asked to select all the reasons influencing their decision towards eCommerce engagement (figure 11). They, mainly, appreciate eCommerce as “an opportunity for their company to expand and grow” (48/57; 84%) regardless of their role in the business, be it managerial (17/22; 78%), marketing (13/14; 93%), or IT/IS (18/21; 86%). The vast majority recognize the “need to keep up with the existing competition” (41/57; 72%) and admit the fact of the “customers demanding to deal on the internet” (41/57; 72%). The two drivers, just mentioned are identified as almost equally very important by 17/22 managers (78%) and 16/21 (or 15/21 for the latter) IT/IS experts (72 and 71% respectively), with only the marketing people having lower regards concerning them (8/14; 58% and 9/14; 64% respectively). The above are the drivers that significantly affect, almost dictate, the decision to get involved in eCommerce practices.

Other reasons that lead them to enter the digital world are the “need to increase the business status” (65%), or the recent “industry changes and trends” (61%) which point to this direction. A large number of them agree with Porter and see it as a reaction to the “threat of new competitors” (60%), or the “pressures from new suppliers” (56%). Lastly, as of the positive responses, they find that “government incentives” (54%) are another significant factor promoting the idea. On the other hand, executives tend to depreciate the “threat of large competitors” or the “order from top management” (22/57; 38%).

The findings become more interesting when executives are asked to select the single most important driver from the list in figure 11. A fourth of them agreed (14/57; 25%)

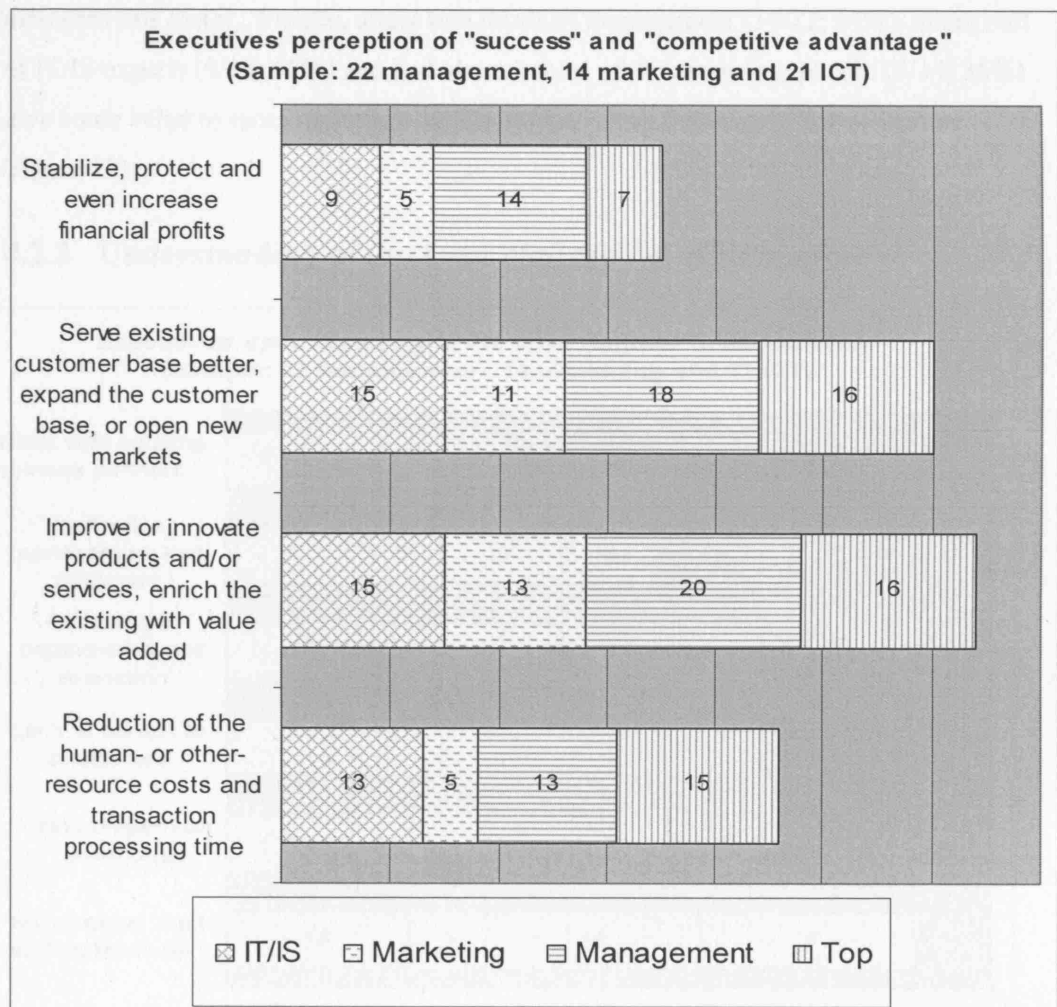
that eCommerce as an “opportunity to expand and grow” is the most important factor affecting positively their decision followed from some distance by the “need to keep up with competition” (11/57; 19%) and the “customers’ demand” (10/57; 18%). Indeed, just 5/57 (9%) of them admitted to have followed “orders from the top management” presumably because they are the top management in their companies and only 5/57 (9%) followed “industry changes and market trends” again probably because they are the ones that “make” the trends.



**Figure 11:** Drivers leading companies/organizations to engage with eCommerce

Considerably fewer executives 2/57 (4%) responded to “pressures from suppliers or other business partners”, 2/57 (4%) needed to “increase the value/status of their business” and 2/57 (4%) reacted to “threats of new competitors taking over business”. Much to our surprise, just one person (1/57; 2%) admitted to having been influenced by the “various government incentives”. This might mean that government programs are not attractive enough or the targeted group of people using them did not know about them - hard to believe given the quality and experience of the study’s participants. Another executive (1/57; 2%) considered the “threat from large competitors” as the most important driver leading to engage eCommerce. Three interviewees (3/57; 5%) either did not want or couldn’t specify.

#### 4.2.2 The meaning of “success” and “competitive advantage”



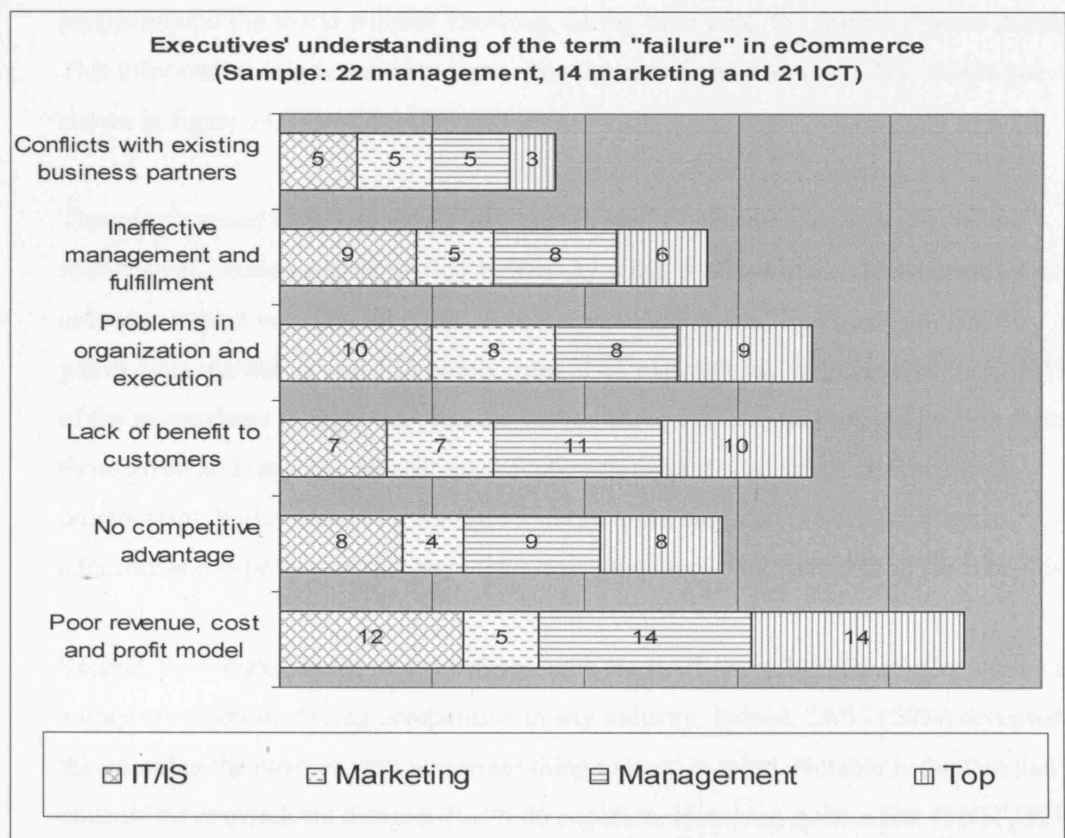
**Figure 12:** Executives' perception of "success" and "competitive advantage"

Once they have engaged in eCommerce, executives expect to succeed and/or gain a competitive advantage in the market. The “reduction of the human or other resource costs and processing time” (15/54; 28%), the “improvement or innovation of products

and/or services, and the enrichment of the existing ones with value added” (16/54; 30%) and “servicing the existing customer base better and expansion of the base through eMarketing” (16/54; 30%) were considered as the main (top) definitions of “success” and “competitive advantage”. In contrast, very few (7/54; 13%) regarded the need to “stabilize, protect and even increase financial profits” as a key definition of success (figure 12).

In general, most professionals (48/54; 89%) put more weight on their companies’ products while less (44/54; 81%) are mainly concerned with serving and expanding the customer base. Interestingly, although as mentioned earlier quite a few believe cost reduction (in every sense including human or other) and processing time are the main (top) determinants of success, many other professionals (23/54; 43%) tend to completely disregard this factor. Finally, about two thirds of management (14/22; 64%), about half of IT/IS experts (9/18; 50%) and just about a third of the marketing people (5/14; 36%) give some value to more monetary factors such as share value and flow of income (figure 12).

#### 4.2.3 Understanding of the term “failure” in eCommerce



**Figure 13:** Executives' perceptions of "failure" in eCommerce

In addition to their perception of “success”, executives were also requested to explain their understanding of what they would perceive as failure after engaging in eCommerce (figure 13). Quite surprisingly, although they did not seem to be concerned about monetary issues when translating the term “success”, now their main (top) fear translated as “failure” (14/57; 25%) was “poor revenue, cost and profit model” except for the marketing experts. The “lack of benefit to customers” came up second (10/57; 18%) followed closely by “problems in organization and execution” (9/57; 16%) and the quite subjective feeling of having “no competitive advantage” (8/57; 14%). They seemed quite less worried about “ineffective management and fulfilment” (6/57; 11%) since that was their responsibility and even less about “conflicts with existing business partners (3/57; 6%). Things remained the same when the respondents were asked to simply mark all the valid definitions (based on their experience) of “failure”. Only the marketing people seemed to not have a crystal clear and unanimous idea of the term.

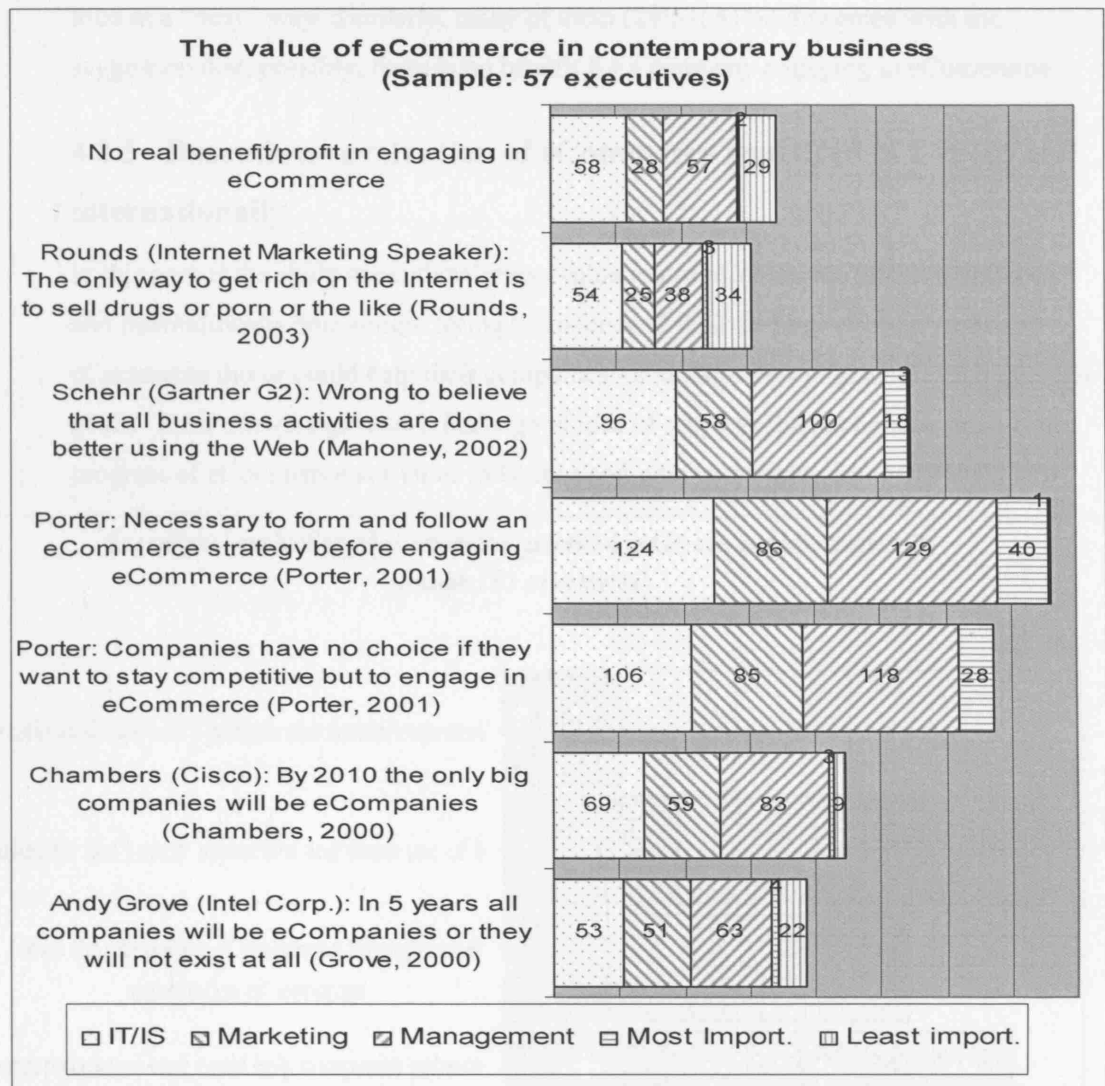
#### **4.2.4 The value of eCommerce in contemporary businesses in Greece**

One of the key elements of the study was to identify executives’ general perception about the value of eCommerce in Greece. For this purpose they voted for (7, 6, 5 points), against (1, 2, 3 points), or neutral (4 points) towards the opinions of 7 influential people around the world without knowing, during their vote, the names of these people. This information was revealed to them after the end of the interview. The results are shown in figure 14.

There is clear and complete agreement with Porter’s recommendation to “form and follow an eCommerce strategy first before engaging in eCommerce” to start with. Not only was it most voted by all types of executives (129 points from management, 86 points from marketing and 124 points from IT/IS experts) but, furthermore, 40/57 (71%) of the respondents thought this was the first or second most important suggestion from those given and only one marketing executive thought it was almost or completely unimportant. It also came to the author’s notice from the interviews that the more educated and experienced the executives were, the more they tended to agree with this.

Second, they tended to agree, once again, with Porter (Porter, 2001) that eCommerce is a one-way ticket to staying competitive in any industry. Indeed, 28/57 (50%) accepted this as either the most or very important thing to keep in mind. Notable is the fact that none of the respondents disagreed with this opinion. However, quite a few (18/57; 32%) agreed with the suggestion that eCommerce is not a panacea (i.e. everything).





**Figure 14:** The value of eCommerce in contemporary business

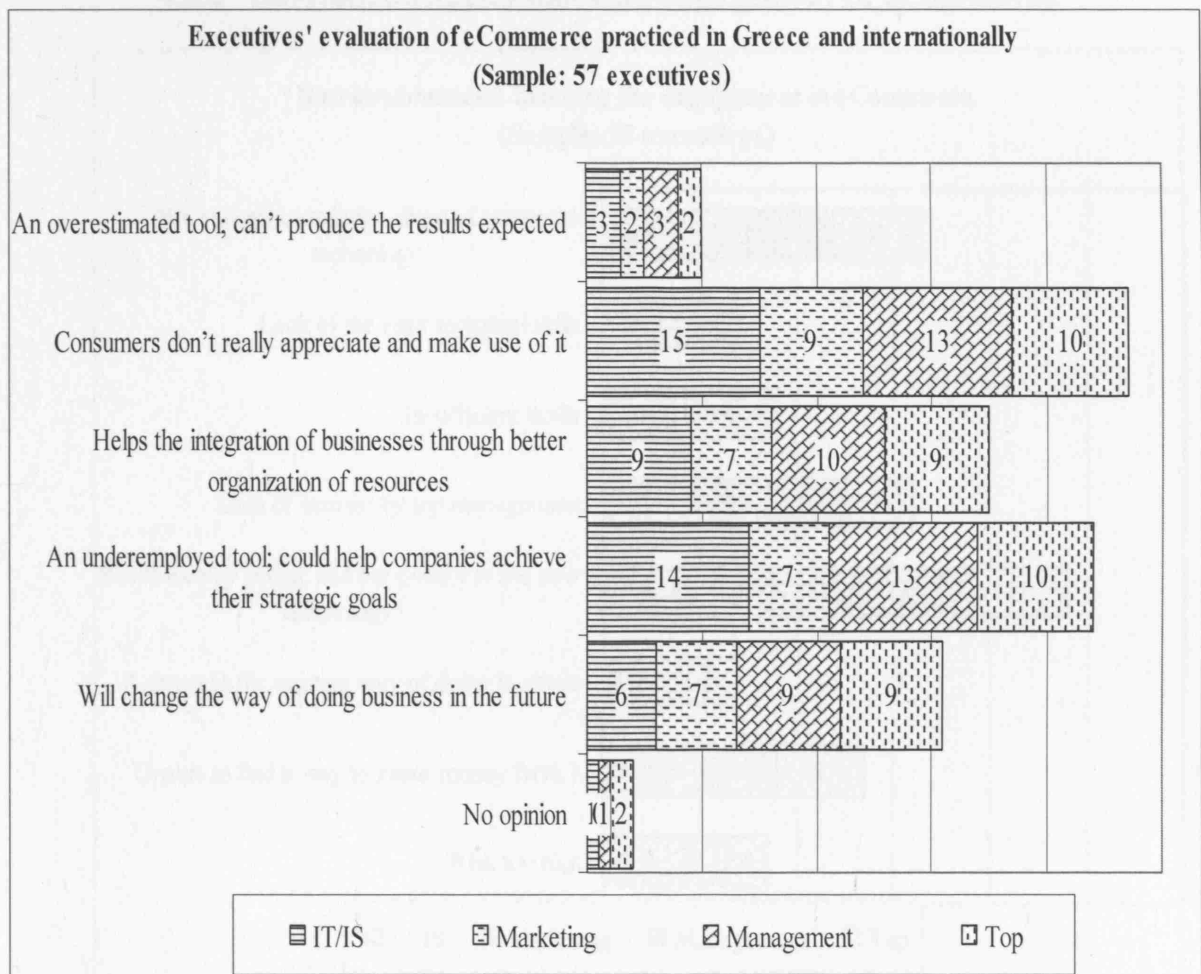
A third finding was that executives did not really accept the projection that in 5 years all the companies will be present on the Web (Grove, 2000) and the expectation that if there is one large company, the largest worldwide, by 2010, would be an eCompany (Chambers, 2000). Only 4/57 (7%) absolutely or mostly agreed, whereas 22/57 (39%) completely disagreed with the former statement whereas the relative statistics for the latter were 3/57 (5%) and 9/57 (16%) respectively. When asked further to discuss the issue, the executives specified (almost in a unanimous way) that their hesitation had to do only with the deadline given by the authors of the statements and not with the statements themselves.

On the other hand there was a general feeling of disagreement with negative thoughts about the value of eCommerce. Most of the executives (34/57; 60%) denied Rounds's (Rounds, 2003) depreciation of eCommerce as a tool and means to make money unless

used in a “dirty” way. Similarly, many of them (29/57; 51%) disagreed with the suggestion that, possibly, there is no benefit for a company engaging in eCommerce.

#### 4.2.5 Executives' evaluation of eCommerce practiced in Greece and internationally

In this part of the study executives' own evaluation of eCommerce practice in Greece and internationally was sought trying to understand their feelings about if and how eCommerce did or could help their companies - and industries in general – achieve their goals. Their answers gave us a fairly good idea of why executives believe there is no progress of eCommerce activities in Greece and who is to blame for this (figure 15).



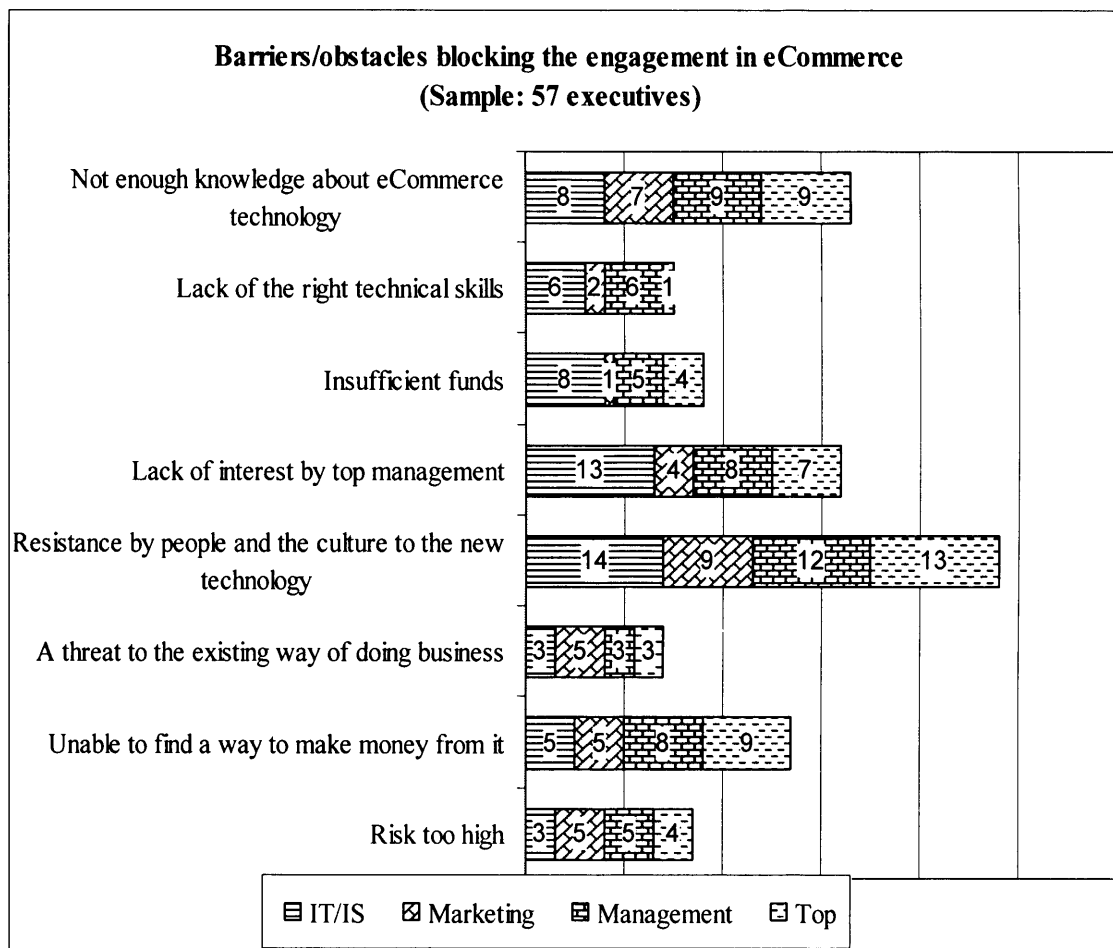
**Figure 15:** Executives' evaluation of eCommerce practiced in Greece and internationally

Executives generally recognized that eCommerce is an underemployed tool among Greek professionals and business people (34/57; 60%) when they voted on relative ideas/statements. They also thought (10/57; 18%) this was the single most significant conclusion from their experience. This was despite the fact, they agree, it could help

their companies achieve their goals (26/57; 46%) and that they tend to believe (22/57; 39%) eCommerce is going to change the way business is done in the future.

Most of them tend to blame consumers for not making use of it (37/57; 65%). This is despite the fact – discussed in a previous section on the classification of Greek web sites – that they do not offer many choices and leave the visitors to wander among other international sites. Some of them (8/57; 14%), quite disappointed by the results of their eCommerce solutions, refused to appreciate the value of eCommerce believing it cannot produce any results it promised.

#### 4.2.6 Barriers/obstacles blocking engagement in eCommerce



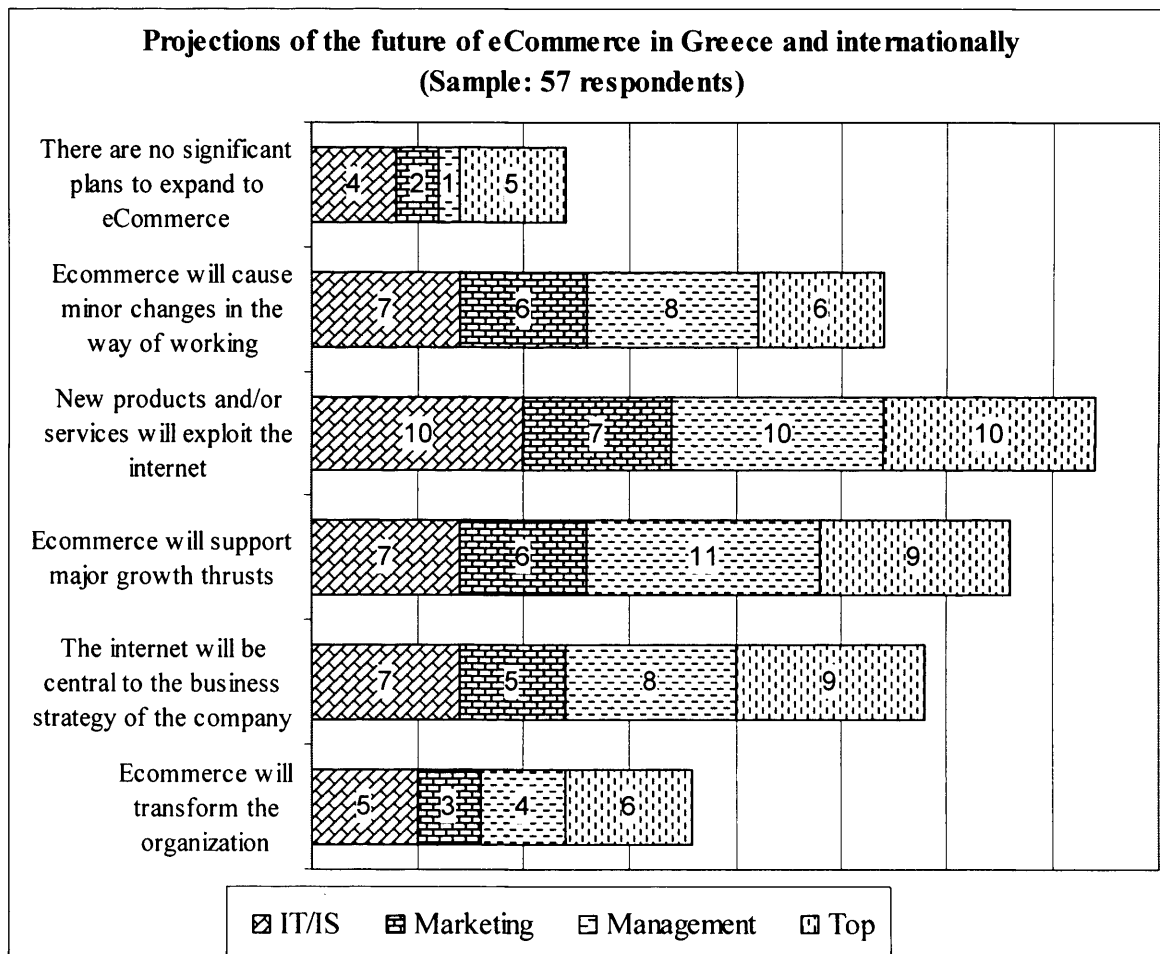
**Figure 16:** Barriers/obstacles blocking the engagement in eCommerce

Although all the companies studied had an online presence, their executives identified possible barriers/obstacles that could block their plans to engage in eCommerce. Their main reason (35/57; 62%) was the belief that Greek people and culture resist the new technology; 13/57 of them (23%) classified this as the most important obstacle. Second barrier was considered the lack of interest by the top management (25/57; 44%) which, however, was selected as most important only by 7 executives (7/57; 12%). Next, was

the perception of not having enough knowledge about eCommerce technology (24/57; 43%). This was selected as most important by 9/57 (16%). Then was the inability to find a way to directly profit from it (cash flow) (18/57; 32%) with, again, 9/57 (16%) having this in highest regard (figure 16).

On the other hand few (14/57; 25%) believe the problem is the lack of the right technical skills. Actually, only one executive (1/57; 2%) considered this the main problem. Also regarded as low was the possibility of having insufficient funds (14/57; 25%) selected as most important by just 4 respondents (4/57; 7%). Even lower was the consideration that eCommerce is highly risky (13/57; 23%) given the most attention by just 4/57 of them (7%) or the thought of eCommerce as a threat to the existing way of doing business (11/57; 20%) thought to be the most serious obstacle only by 3/57 (5%) (figure 16).

#### 4.2.7 Projection of the future of eCommerce in Greece and internationally



**Figure 17:** Projections of the future of eCommerce in Greece and internationally

Despite the rather negative score of eCommerce in Greece and the disappointment expressed by executives they seem to be optimistic of its future locally and internationally. Most of them (27/57; 48%) trust the internet as the platform to be used in the future for the promotion of new products and services. Many (24/57; 43%) believe, in general, that eCommerce utilization will help towards their companies' growth. Also, quite a few (21/57; 37%) are planning to make eCommerce central to their business strategy in the future. A few (12/57; 21%) are optimistic enough and excited about eCommerce so as to expect it to transform their organizations (figure 17).

There are, of course, some pessimistic viewpoints as well. A significant number, especially management executives (21/57; 37% - 8/22 management), underestimate the role of eCommerce in the future of their business strategy. Just very few (7/57; 13%) have no plans at all to use eCommerce (figure 17).

#### **4.2.8 Points to note**

The first point that came up in this section was that executives during the interviews showed enough and in a few cases overwhelming knowledge about eCommerce and great appreciation of its value in the future of business activities. The question is why they don't utilize it since they are the ones, presumably, that make the decisions for their companies. Maybe the Greek governments have a very significant role to play, at this point, in promoting eCommerce practices. The main incentive programs "eEpixeirein" and "diktiotheite" (free translation: "connect to the Internet" and "make business online" respectively) should be reanalyzed, their disappointing results thoroughly studied and the whole idea revised and fine tuned to better suit the needs of the companies and, hence, make them more attractive.

Second, although it is a trend in the developed or developing countries there will be some time before eCommerce comes to Greece full scale. Some very pessimistic experts expect a delay between 10 years and 25 years. A few others, quite upset with the overall situation, take a depressing approach:

"Greece is at a level of a third-world country. People are not really using eCommerce...In our sector, that of Hotel Industry, 95% or above of bookings are by phone. Cities like Thessaloniki should have many more bookings online (the number of online bookings is negligent). Situation is so bad that the so-called second-world countries are not far behind Greece, if at all, in that respect. Businesses promote and invest to it but people don't use it. Not many banks, except 2 or 3 large ones, are offering eCommerce transaction to companies and that is only for transferring money through

wiring. To put it simple: the option of eCommerce is rarely given in Greece to customers" (Farsin Walizadeh, General Manager of Kempinski Hotel, interview, 2005).

The good news is, according to Kosmides Damianos (Former Mr. Forthnet – one of the major ISPs in Greece, IT/IS consultant to the governor of Thessaloniki), that the technology is there; there is only the need for education/training of the masses:

"We are in the cutting edge as far as knowing the technology; eCommerce is not mature as far as its usage and growth but in two/three years it will reach the international levels. In general it is limited to its deployment because the people don't use it. It could and will offer opportunities to consumers but so far people hesitate to use it. There is the need for training to all, but mainly a need for the development of the proper infrastructure which exists but must be improved and offered to the public at low cost." (Kosmides Damianos, interview, 2005).

### **4.3 Technical details of Greek eCommerce solutions**

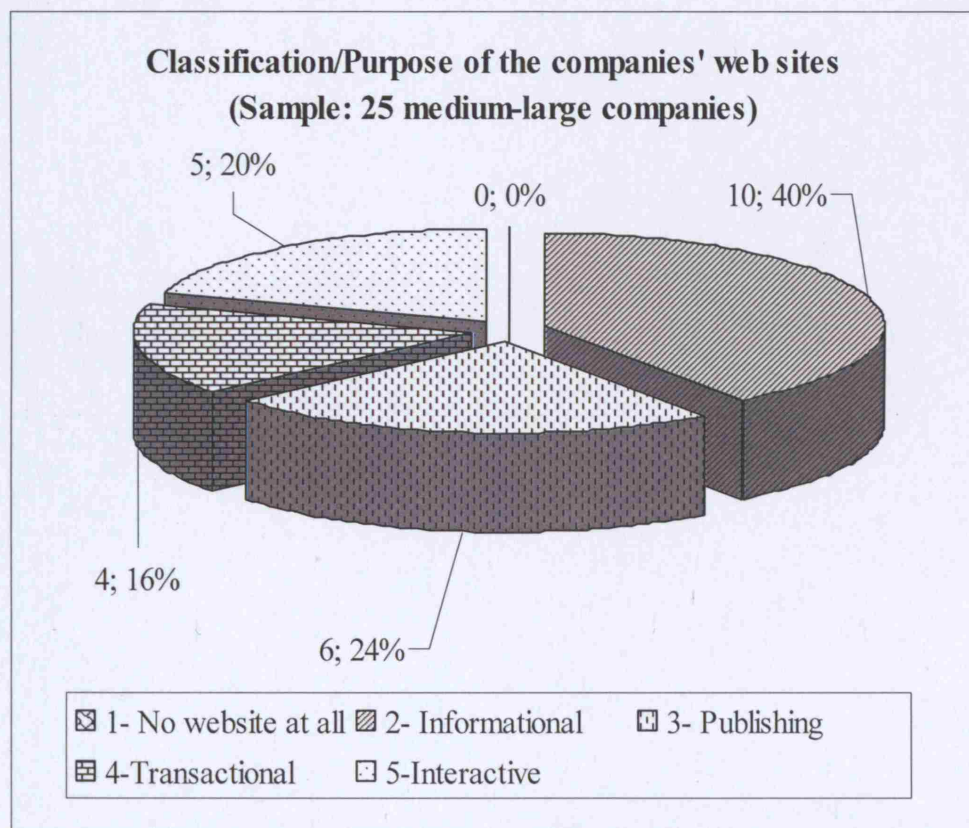
#### **4.3.1 Classification, scope and costs of the web sites**

The executives also provided a classification of their companies'/organizations' online presence based on the categories listed in table 4.2. Although it was verified that all the businesses of the sample had an online presence, the vast majority would be classified either as informational (10/25; 40%), or as publishing (6/25; 24%) at most. Only 4/25 (16%) had web sites with transactional functionalities, mainly Business to Business (B2B systems) and 5/25 (20%) were classified by the executives as interactive but it was found eventually that half of them did not quite meet the requirements set for the category and probably should be classified in the previous category, that is the transactional (figure 18). These are disappointing numbers as they represent the leading companies/organizations in Greece, hence, leave no room for optimism as to what happens in the hundreds of thousands of small and a few thousands of small-medium businesses in the country.

In contrast, most executives have set the globe as their web sites' scope (12/24; 50%) - an overestimated idea of their sites' design and functionality indeed. Just 1/24 (4%) web sites was meant to serve visitors from European Union countries despite the fact Greece is a European Union country in the Euro zone. Some others (3/24; 13%) were developed with the Mediterranean region in mind and a very significant number (8/24; 33%) were local in scope. In just one case (the 25<sup>th</sup> company) the participants either did not know or were not willing to specify their site's geographic scope, thus, reducing the size of the sample to 24 companies for that specific element (figure 19).

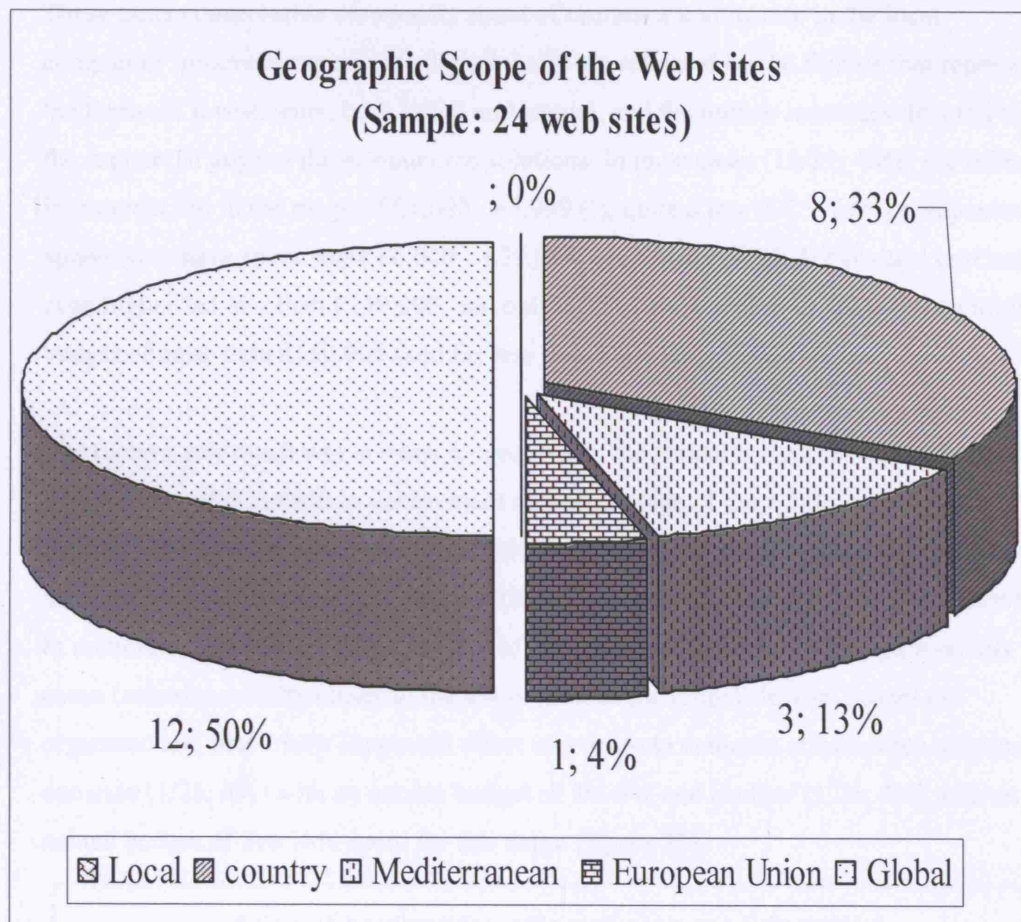
Categories of online presence
Category 1: No website at all
Category 2: informational: company profile, general catalogue of products/services, email link.
Category 3: publishing/advertising of the company's detailed catalogue of products/services specifications in addition to the elements of the previous category.
Category 4: transactional: offer the opportunity for secure online transactions, suggest delivery method/channel on- or off-line, provide tracking of the status of orders in addition to the elements of all the previous categories.
Category 5: interactive: integration of the Internet technology in everyday business activities.

**Table 4.2:** Categories of online presence

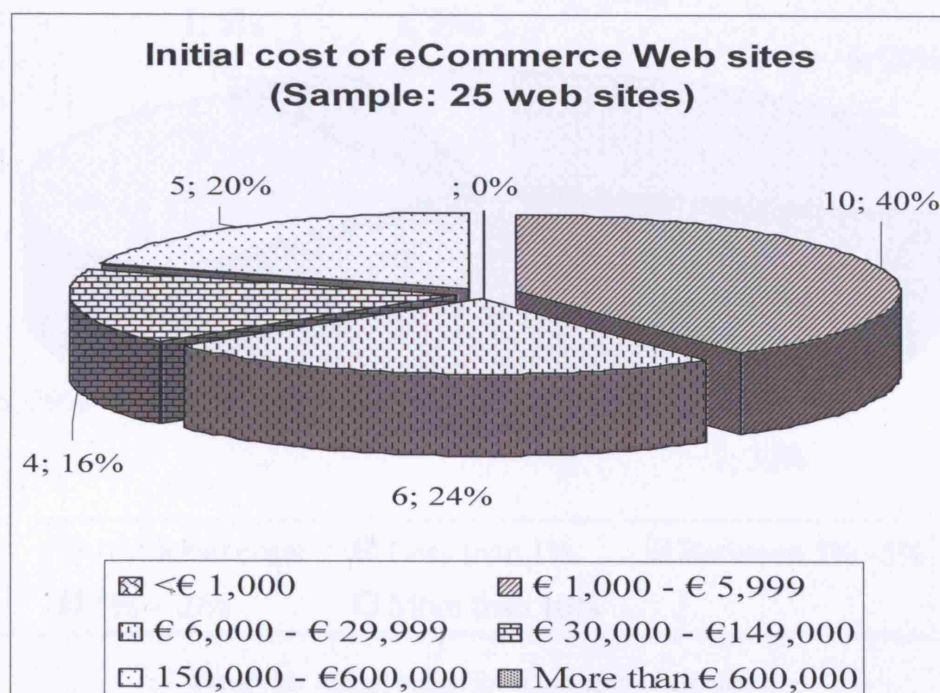


**Figure 18:** Classification/purpose of the companies' web sites





**Figure 19:** Geographic scope of the web sites

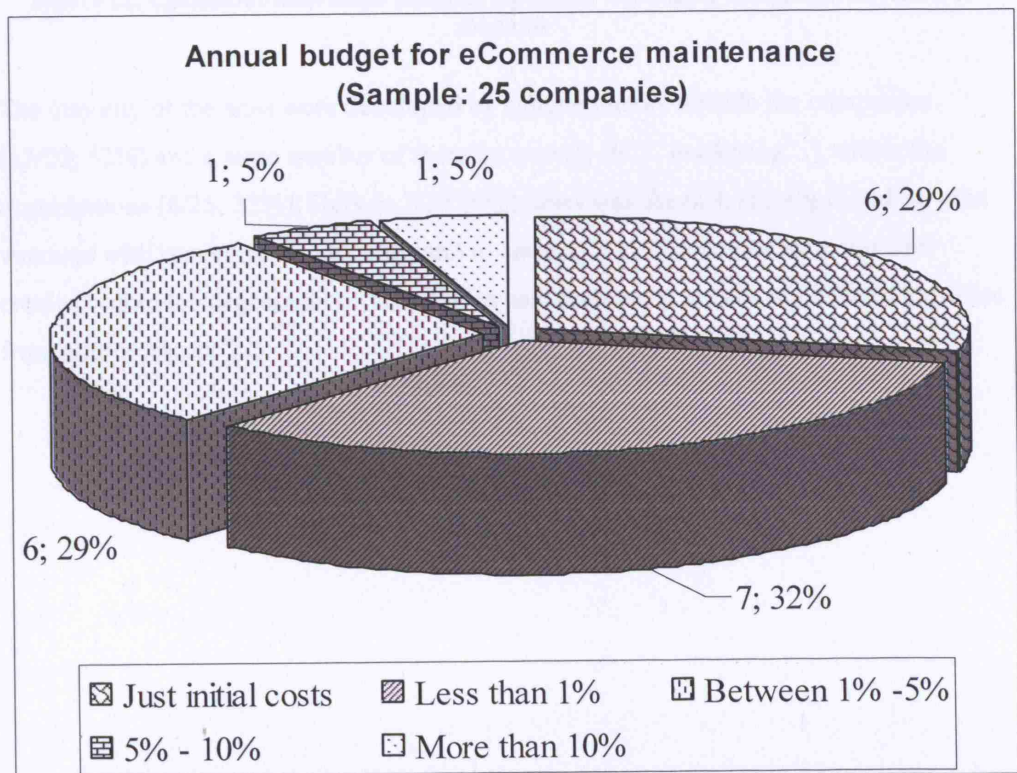


**Figure 20:** Initial cost of eCommerce web sites

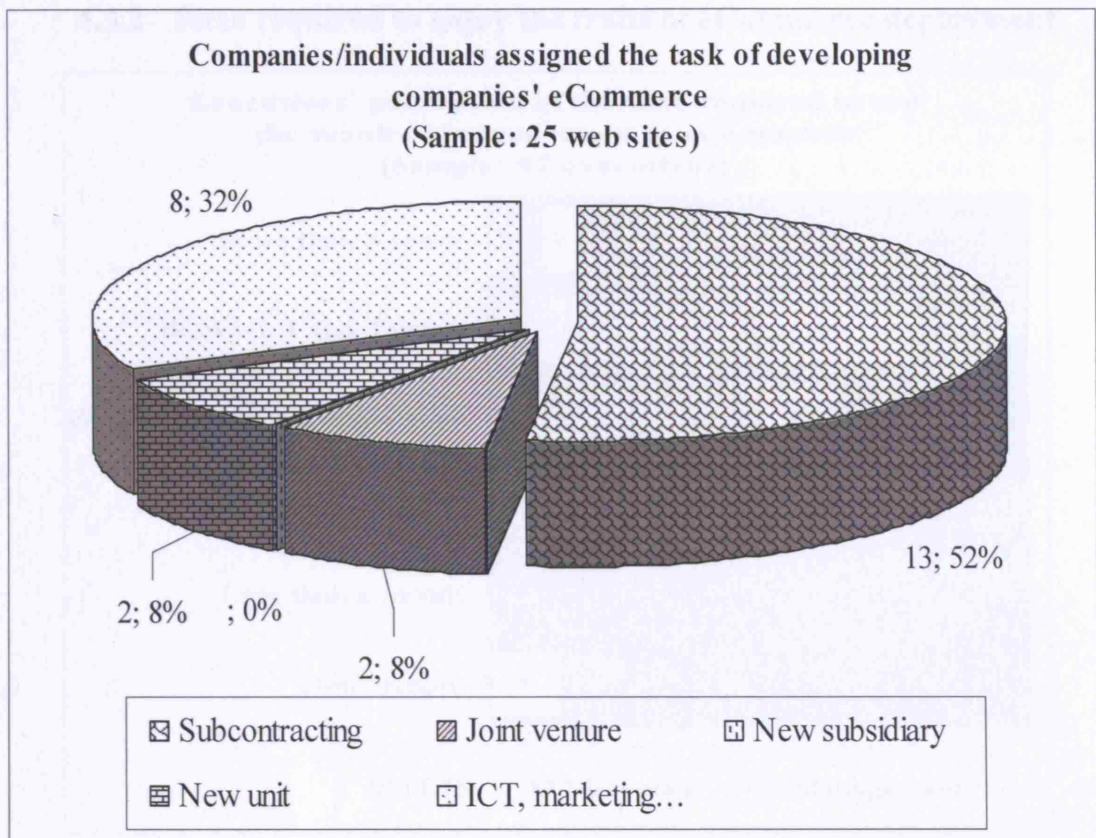


These quite conservative viewpoints about eCommerce and its role in the local companies' progress towards the digital world are reflected by the figures that represent the financial investments, both initial and annual, and the human resources devoted to the support (if any) of the eCommerce solutions. In most cases (10/25; 40%) the initial investment fell in the range of €1,000 - €5,999 (!), quite a few (6/25; 24%) companies appeared to have spent some €6,000 – €29,999, even fewer (4/25; 16%) sites' cost was even higher but less than €149,000, and only 5/25 (20%) executives approved an initial budget of more than €150,000 (and far less than €600,000) (figure 20).

The picture gets much worse when one considers the annual budgets spent on the maintenance of eCommerce deployment as a percentage of the whole companies' budgets. Unfortunately the numbers speak for themselves. In most cases either there is no annual budget spent on maintenance (6/25; 24%), or it is less than 1% (7/25; 28%). In numerous cases (6/25; 24%) 1%-5% of the companies' budgets were spent on this cause (actually, usually closer to the lower limit of the range). Just in 2 cases an organized and financially supported effort was made to maintain eCommerce solutions; one case (1/25; 4%) with an annual budget of 1%-5% and another (1/25; 4%) with an annual budget of 5%-10% spent for this cause (figure 21).



**Figure 21:** Annual budget for eCommerce maintenance

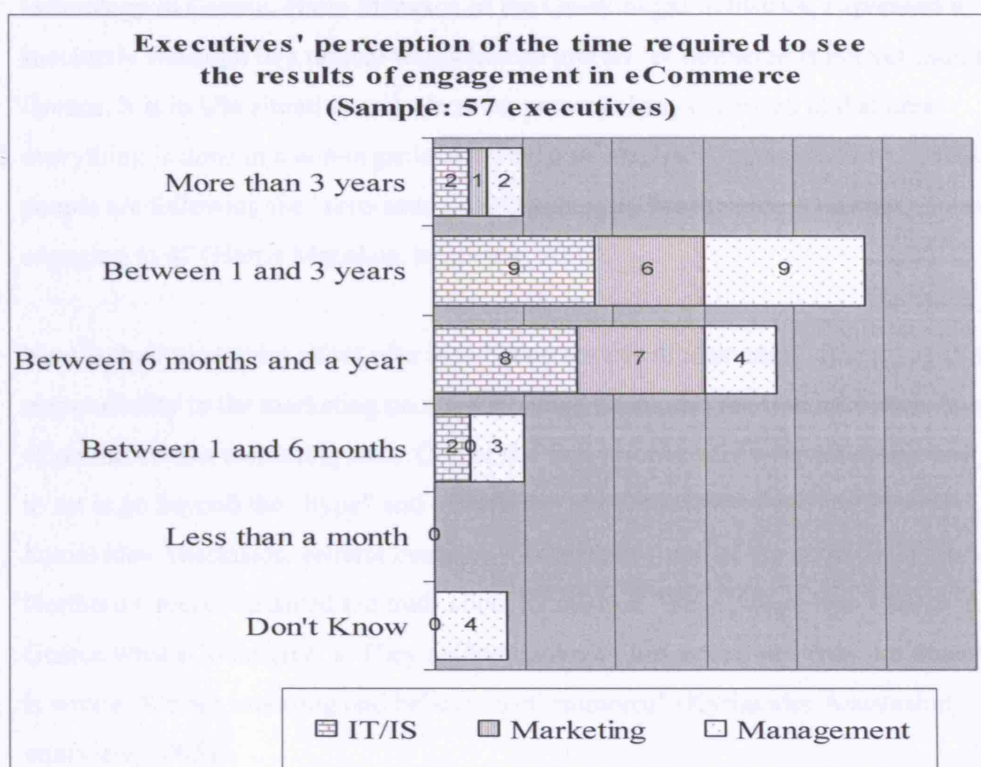


**Figure 22:** Companies/individuals assigned the task of developing companies' eCommerce solutions

The majority of the sites were developed by subcontractors outside the companies (13/25; 52%) and a large number of them by experts (ICT, marketing...) within the organizations (8/25; 32%). Only in 2/25 (8%) cases was the task accomplished by joint ventures with specialized companies and in another 2/25 (8%) cases by a new unit created within the organizations themselves and manned by people of different expertise from within (figure 22).



### 4.3.2 Time required to enjoy the fruits of eCommerce deployment



**Figure 23:** Executives' perception of the time required to see the results of engagement in eCommerce

The vast majority of executives, regardless of their backgrounds, are quite reasonable as of their expectations of how much time it is required before their companies enjoy the fruits of eCommerce deployment. They believe that it takes from no less than 6 months to a year (19/57; 34%) or, even more, up to 3 years (24/57; 43%) for the benefits of eCommerce deployment to become visible. Some (5/57; 9%) put the time limit even further into the future willing to wait more than 3 years for this purpose. There were the exception, some 5/57 (9%) who would not wait more than 6 months and 4 more management people (4/57; 7%) who did not have any opinion on the subject. None of the executives accepted the time limit of 1 month before results of eCommerce start appearing, which of course is common sense (figure 23).

### 4.3.3 Executives' thoughts about the problem of eCommerce in Greece

Some more ideas and thoughts came out of the executives' interviews when they were left to freely and without a predefined frame of answers express their feelings and thoughts about the problem of eCommerce in Greece. First, they believe the eCommerce solutions developed and offered by the relevant developers, whether companies or individuals, are expensive, of low quality, usually not maintained, mostly under

operated and the technology is eventually wasted. One of the pioneers of information technology in Greece, Haris Manakos of the Greek Sugar Industries, expressed it succinctly although in a radical way when he told us "eCommerce is not yet used in Greece. It is in idle situation and wherever present always misused in that area; everything is done in a non-organized or, even worse, badly organized way; business people are following the 'zero-sum game' (going just for the money) strategy when engaging to it" (Harris Manakos, interview, 2005).

Next is their viewpoint about who is to blame for this dim situation. Some put all the responsibility to the marketing people who, they claim, did not find new ways to use eCommerce as a marketing tool. One of the first priorities they expect marketing people to set is go beyond the "hype" and enthusiasm and find ways to use it effectively. Kyriakides Anastasios, general manager of Kleeman – one of the major industries in Northern Greece – pointed the truth about its misuse: "Most people don't know in Greece what eCommerce is. They believe that with just a web site, they are done but this is wrong. We are investing and believe in eCommerce" (Kyriakides Anastasios, interview, 2005).

Others tend to explain the whole situation as a negative aspect of the Greek society and culture manifested in a number of different ways. It is how the Greeks like to communicate even when purchasing things, the way the previous generations' business people think and behave reluctantly to any new technology, the new people's fear of financial transaction on the web (fear of fraud and the like), etc. It is mainly a matter of mentality. Alekos Mouratides of ALCO food industries, a major supplier in Northern Greece, underlined this common problem of Greek "thinking":

"We are still in the "Ice Age" as far as eCommerce. Furthermore, I believe there will be shrinking of retail stores and merging of many of them under the eCommerce umbrella. This will happen after a few years. As far as eCommerce we are still far behind. Most business people in Greece are seeking for ways to 'make easy money' playing the 'zero-sum game'. No plans and of course no strategy for the near or far future. The business world in Greece these days is in great need of 'ants' (i.e. workers) and not of 'grasshoppers' meaning 'smart' fake business people" (Alekos Mouratides, ALCO food industries, interview, 2005).

Another category of executives conscientiously struggle to bring the whole issue down to earth, without underestimating eCommerce. Andrianakis Petros of BYTE Computer A.E.V.E keeps on stressing to every direction that eCommerce is not everything but should be looked at as a powerful tool which if used together with other may help

businesses achieve their goals: "Don't get crazy about it. It should be used in sectors where it is really needed. It is not needed in the retail sector. It's a scary scenario to have people not getting out of their homes and just buy everything they need through the Net" (Andrianakis Petros, interview, 2005).

Finally, there are those executives who blame the weak information and communications technology infrastructure in the country for the low scores of eCommerce in Greece. They believe things will get much better when costs (including connectivity) are reduced and more people get involved with the internet (a level of 60%-65%). Enomonides Kyriakos from Telepassport, a major telecommunications player in Greece stressed it enough and to the extreme:

"eCommerce doesn't exist; the main reasons for that are the lack of supportive mechanisms which is mainly because of the nonexistent public infrastructure, the inefficient and ineffective legal framework which does not support the new technologies like electronic signatures, the lack of proper education and training of the greater population. It will happen when broadband service becomes available at a reasonable cost. For now it is used only for emailing and information exchange; Governments run several 'incentive' programs' for 'their' people, the 'few' but this is just it. Mentality has to change from top government executives to lower clerks in all companies" (Economides Kyriakos, interview, 2005).

The good news is, according to Kosmides Damianos former Mr Forthnet – one of the major ISPs in Greece - IT/IS consultant to the governor of Thessaloniki, the technology is there. There is only the need for education/training of the masses (perhaps a goal to be set by the governments in the country):

"We are in the cutting edge as far as knowing the technology; eCommerce is not mature as far as its usage and growth but in two/three years it will reach the international levels. In general it is limited to its deployment because the people don't use it. It could (and will) offer opportunities to citizens, consumers but so far people hesitate to use it. There is the need for training to all, but mainly a need for the development of the proper infrastructure which exists but must be improved and offered to the public at low cost".

#### **4.3.4 Points to note**

If someone was to express in a couple of words how executives in Greece see their eCommerce strategies from a technical point of view probably s/he would say: "mixed signals". Indeed, although it is very clear what each one of these individuals believes their "verdict" on the subject is far from being unanimous. There are those who are quite conservative thinking they should make small steps and rather slowly in order to avoid the possible risks associated with this idea like with every new business venture. On the

other hand there are the ones who are really annoyed by the slow pace that progress is made towards the digital economy and believe businesses should leap forward as soon as possible to catch the “train” of the digital technology and enjoy its fruits.

The above general conclusion on the matter is proved not only by their direct opinions on the matter as these were expressed during the interviews but, furthermore, by the scope and level of investments of their undertaking. It is rather weird that the scope of the local businesses’ online strategies is said to be either worldwide or quite local with seemingly nothing in between. At the same time, however, their financial or human resources investment could be characterized poor at best if not lighthearted. It was made crystal clear in this and the previous section of this chapter that these people know very well what eCommerce means for the contemporary businesses, what they want to gain from it and what this means in terms of investments required. However, they are either not quite convinced of the outcomes of it and for that reason very reluctant or they are afraid of the risks involved.

#### **4.4 Web site evaluation from a technical viewpoint**

The web sites of 232 medium-large public and private companies from 15 sectors of the Greek economy, either “local” (Greek) or international with subsidiaries in the country, were evaluated (a list of the web sites in appendix C). Medium-large companies were selected because they shape the internet environment in Greece by investing the most in the new digital technologies aiming to utilize it in the best possible way; smaller companies should be expected to do more technology-wise. The evaluation template (refer to appendix D) used consisted of a number of queries divided into four categories as explained in the literature review chapter:

1. Stickiness: addressed general and specific design issues, namely the use of scrolling mechanisms, the presence of floating hyperlinks, the quality of the graphical user interface, the utilization of site maps, the availability of feedback mechanisms i.e. email links, or user evaluation forms.
2. Customization and Globalization: questioned the web sites’ design strategy targeting whole populations and/or individuals both in terms of languages supported and in terms of colors and other graphics used. It also traced whether import/export and taxation differences between regions were clarified, payment and shipping/delivery options were adequately described and what the level and type of customization provided by the site was.
3. Accessibility, availability and hard/software: tested whether the web sites were accessible by different platforms, by different users with – perhaps – health

problems or other abnormalities, or what the system requirements were both in terms of hardware and software.

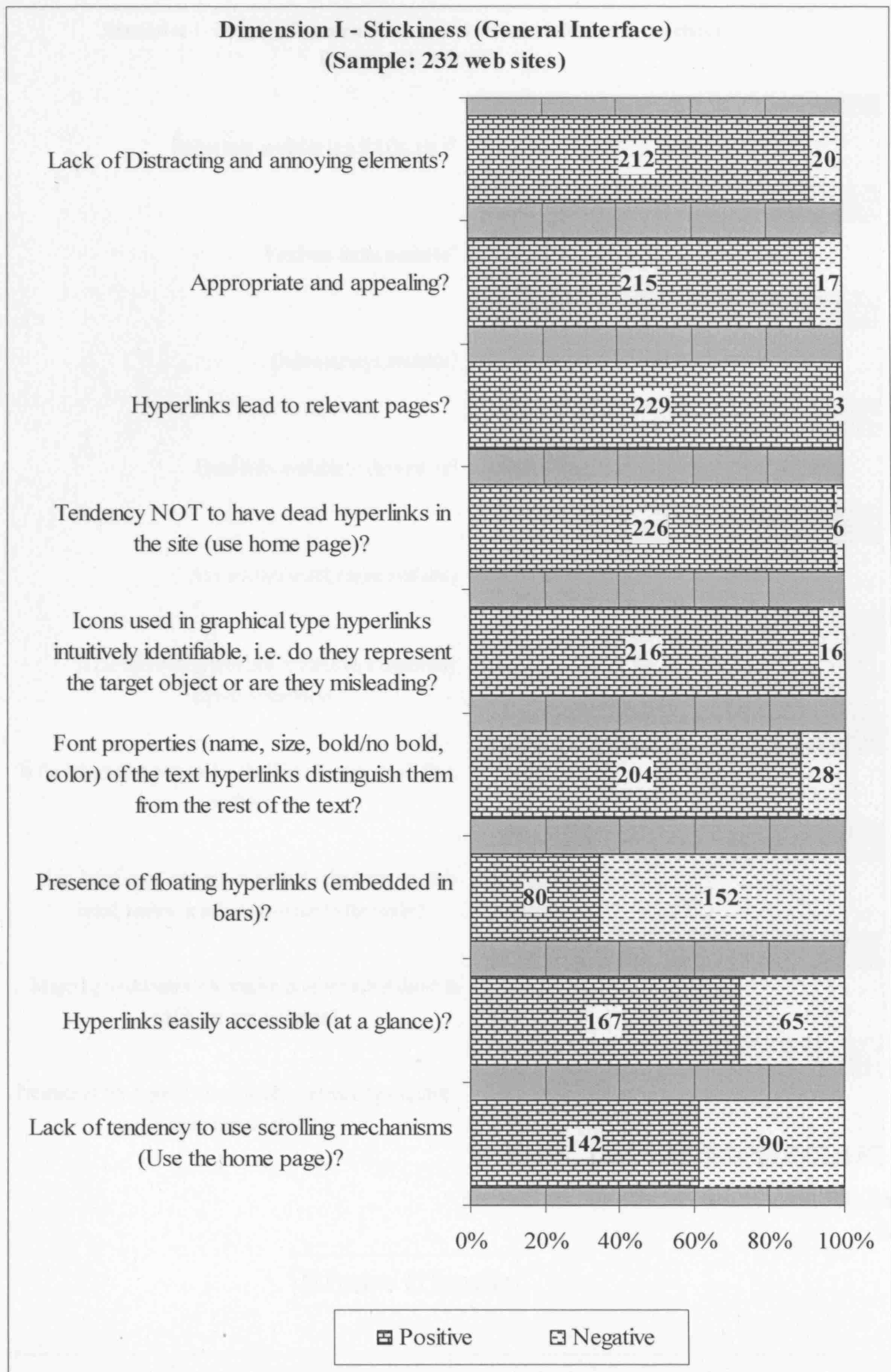
4. Security/privacy: answered whether the developers considered sensitive issues like security and privacy, if they incorporated security mechanisms for the better protection of the data in the web sites.

#### **4.4.1 Web site design/Stickiness**

Initially, concerning web site design issues, the study showed that developers in Greece follow the internationally accepted standards of what a nice looking web site should be like (figure 24). Indeed, the majority of developers (142/232; 61%) tend to avoid the use of scrolling mechanisms which proved to have a negative impact in the web site's attractiveness. In all but 3 cases (229/232; 99%) the hyperlinks were found to lead to relevant pages and in all but 6 (226/232; 98%) the hyperlinks did not lead to a dead end. If icons are used to represent the hyperlinks, the selections were found to be intuitively identifiable in 216/232 cases (93%). When text was the basis for the hyperlinks, the font properties were quite helpful in distinguishing it from the rest of the objects on the web sites in 204/232 of the cases (88%). In general, the hyperlinks could be found easily at a glance in 167/232 of the cases (72%).

Concerning the presence of any sort of distracting and annoying elements, findings were quite positive again as in 212/232 cases (91%) no such elements were found and in general the user interface of the web sites was found to be appropriate and appealing in 215/232 cases (93%). The only problem related to site interface was that in the majority of the web sites floating hyperlinks were not present (152/232; 66%).

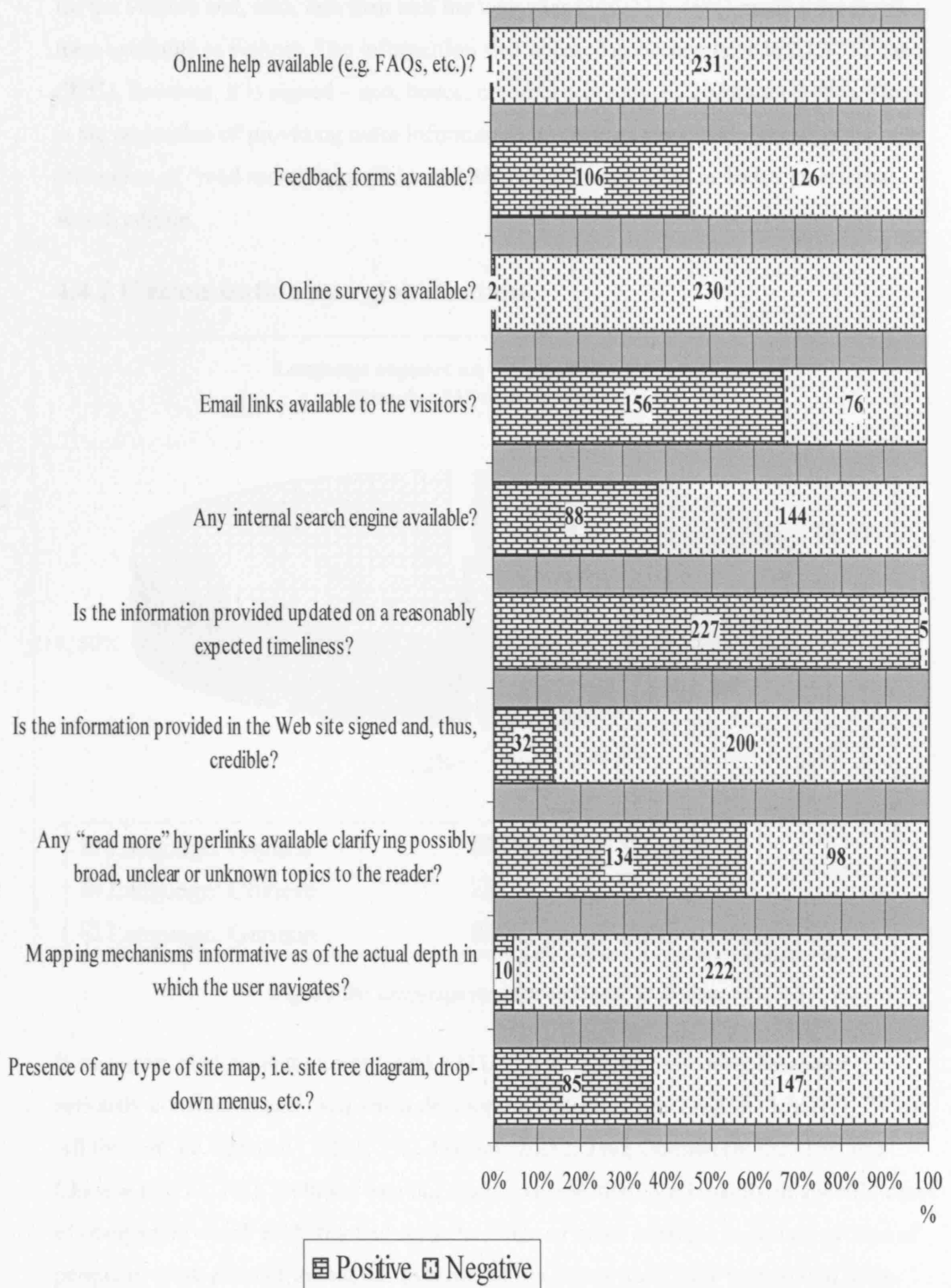
The problems started when more technical details were evaluated (figure 25). One of the central components of any web site, the site map, was only found in 85/232 (37%) of the web sites. More technical mapping mechanisms that could provide information as of the depth in which the visitor navigates were even more seldom utilized (10/232; 4%). As far as online help made available to visitors is concerned, unfortunately, such a feature was only available in one site (1/232; 0.5%). The same can be said of the availability – lack, rather – of online surveys with only 2 sites implementing such feedback mechanisms for the visitors (2/232; 1%).



**Figure 24:** Web site evaluation from a technical viewpoint. Dimension 1 - Stickiness



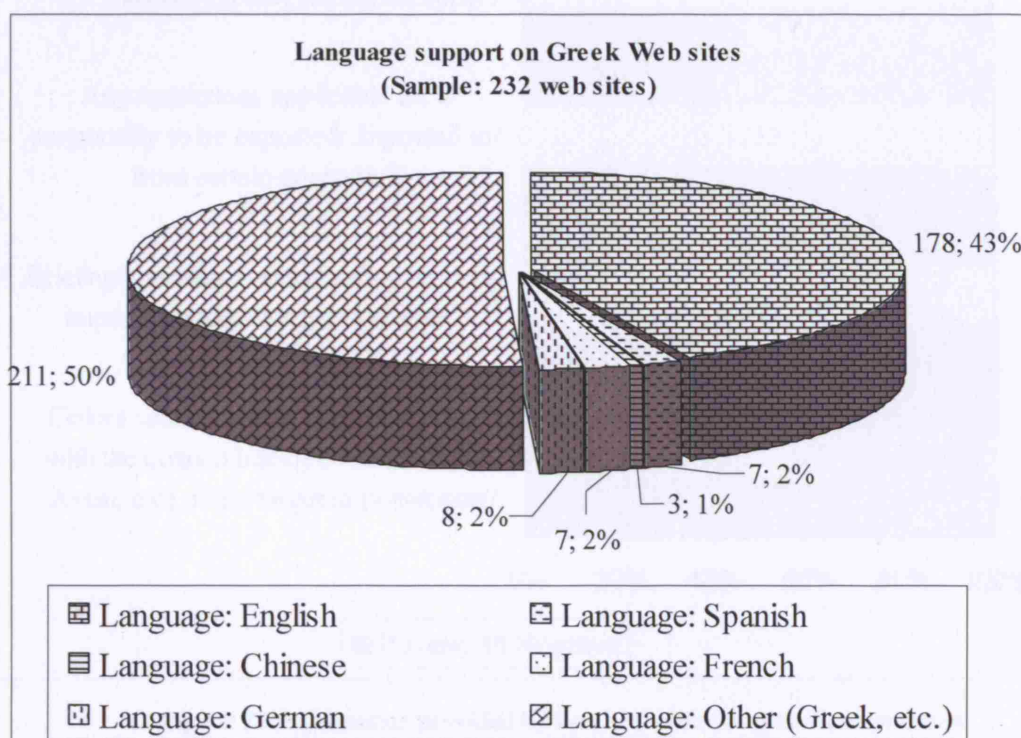
**Dimension I - Mapping & communication mechanisms - Informative structures**  
(Sample: 232 web sites)



**Figure 25:** Web site evaluation from a technical viewpoint. Dimension 2 – Mapping and communication mechanisms – Informative structures

The most surprising element of the findings, however, was that only 156/232 sites (67%) incorporated the very easy to implement and almost obvious to include email link for the visitors and, also, less than half the web sites (106/232; 46%) made a feedback form available to visitors. The information was updated quite regularly in 227/232 cases (98%), however, it is signed – and, hence, credible – in only 32/232 cases (14%). There is the projection of providing more information in 134/232 sites (58%) through the utilization of “read more” hyperlinks and 88/232 of those (38%) included an internal search engine.

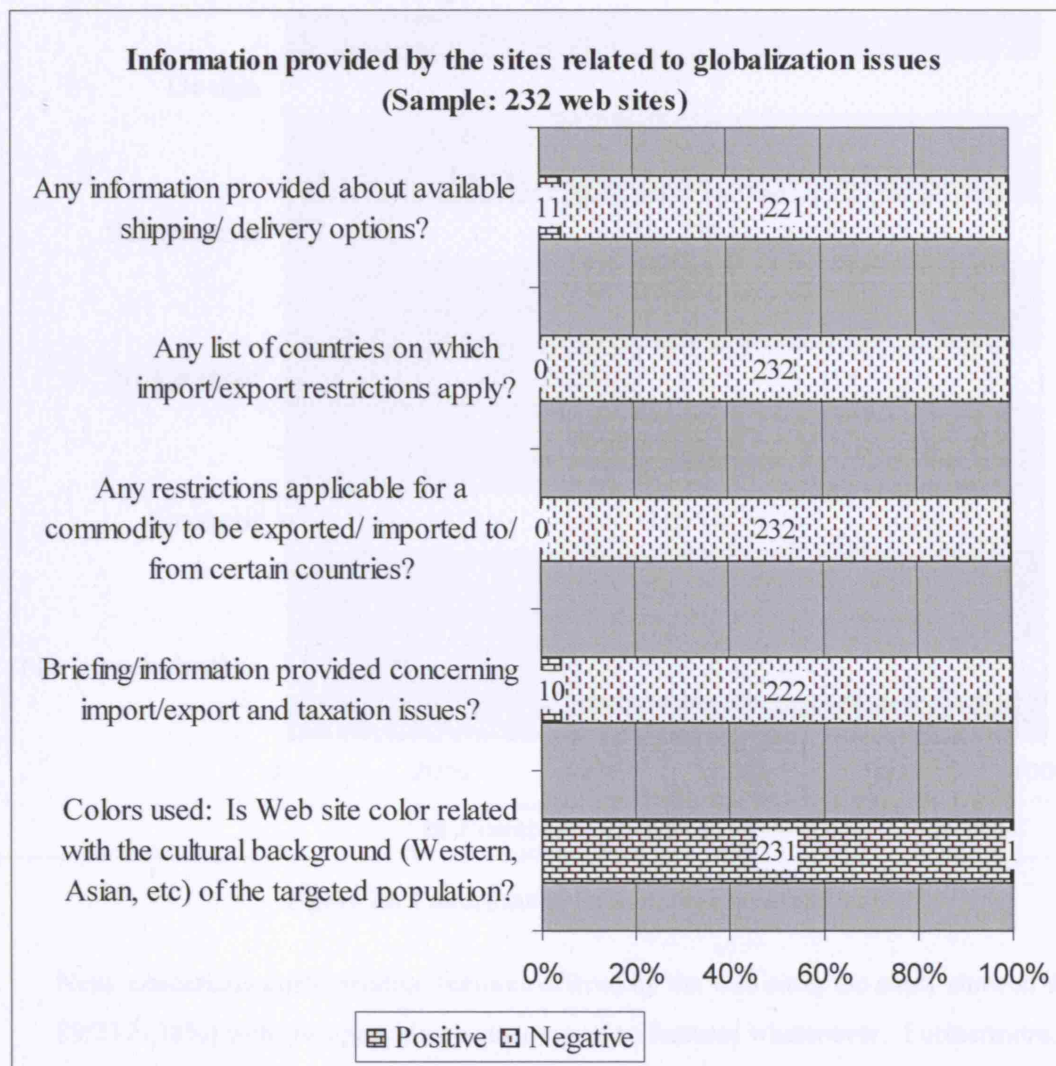
#### 4.4.2 Customization and globalization



**Figure 26:** Language support on Greek Web sites

It was quite obvious that except Greek (211/232; 91%), the only other language seriously considered and used when developing web sites was English (178/232; 77%). All the rest, i.e. Spanish (7/232; 3%), French (7/232; 3%), German (8/232; 3%) and Chinese (3/232; 1%), included into our study, were seldom used mainly in specific cases of companies which probably had some business or other relations to certain groups of people in those parts of the world. In terms of the colors used, they were found to be appropriate (231/232; 100%) in connection with the populations of visitors targeted based on the assumption that the language in which the text was written reflected the mother tongue and culture of the visitor targeted. However, it was also realized that this last conclusion was not based on enough evidence and it would be very interesting to

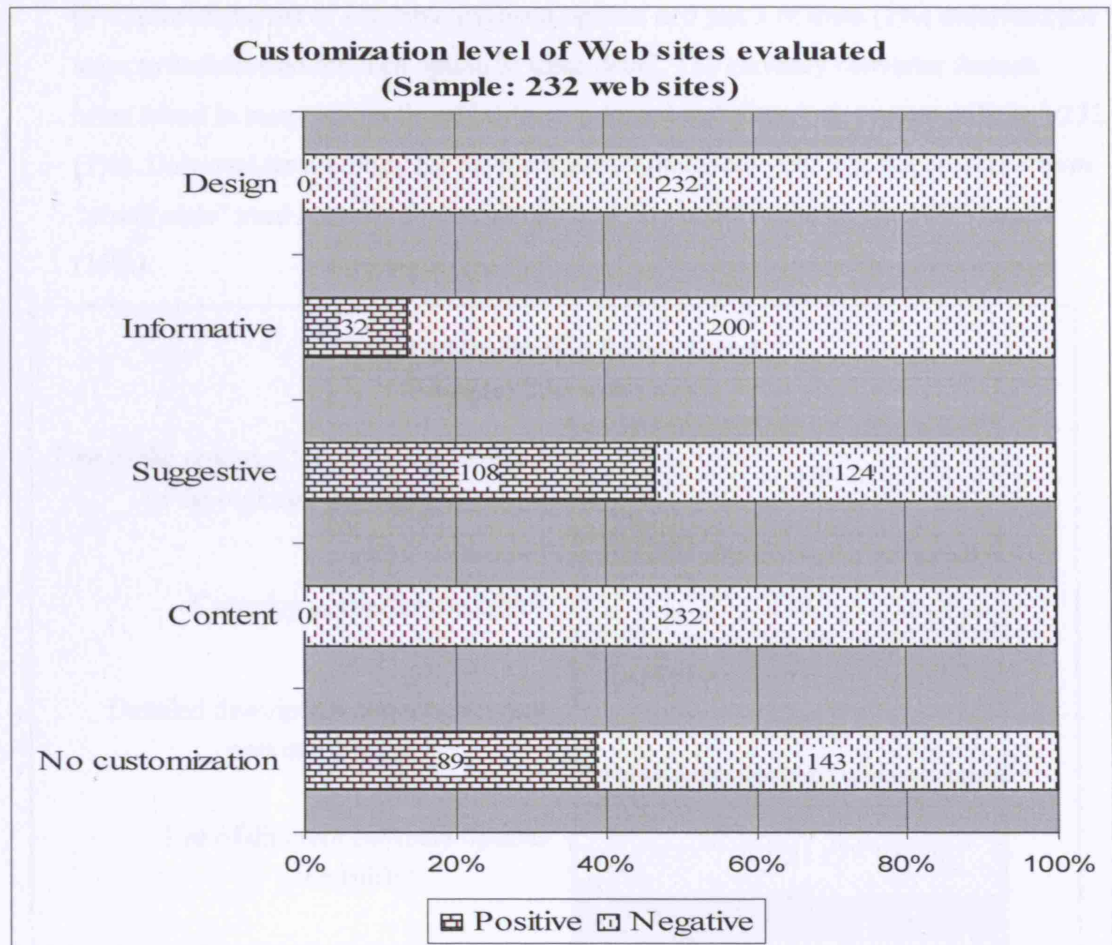
see how things would change if, say, a large portion of the targeted population were Chinese-speaking people (figure 26).



**Figure 27:** Information provided by the sites related to globalization issues

As far as globalization issues are concerned, only the executives of a handful of companies seem to take things seriously as only in 10/232 cases (4%) was there some kind of briefing about import/export and taxation matters, and only in 11/232 web sites was information provided on shipping/delivery options (4%). No discussion can be made about providing lists of countries or commodities for which certain imports/exports restrictions apply. These results would not be to our surprise if it was for small companies but these are medium-large private and public organizations targeting, presumably, populations and businesses not limited to the country, many of which are from regions such as Asia (central, or East), Africa, and America (figure 27).



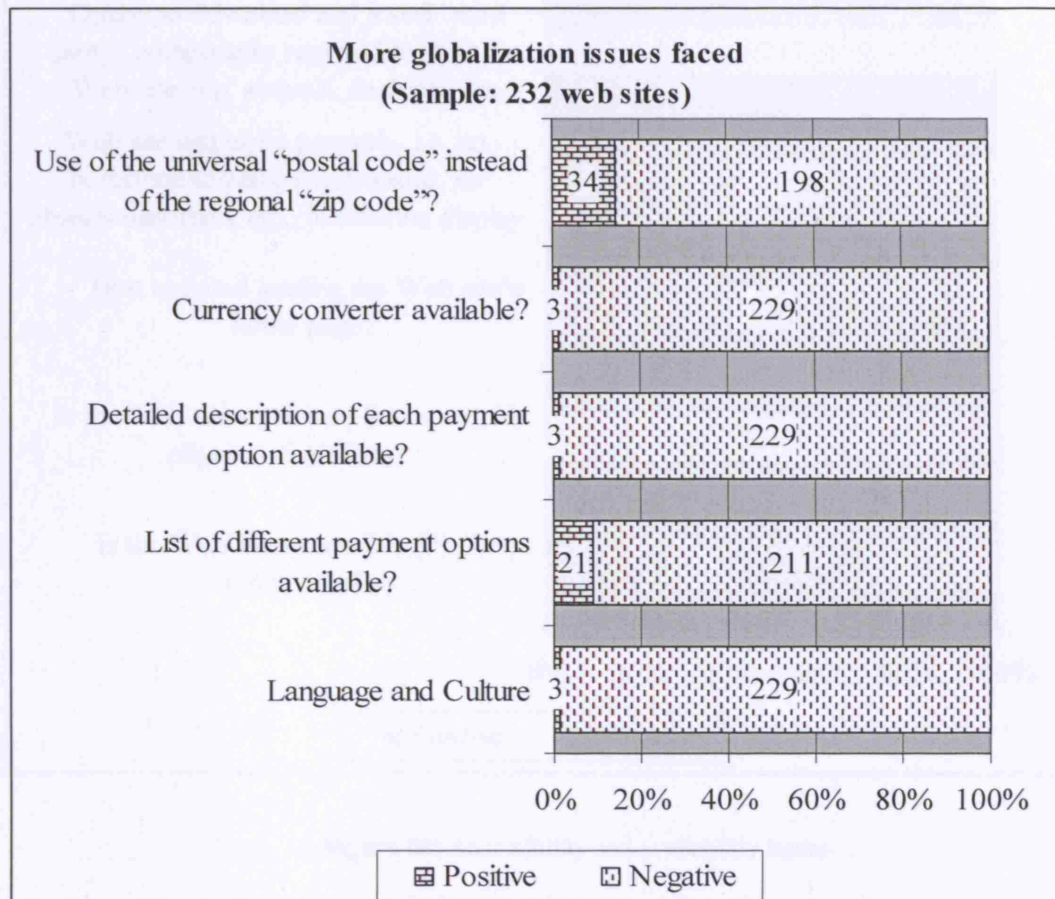


**Figure 28:** Customization level of web sites evaluated

Next, concerning customization features offered by the web sites, the study showed that 89/232 (38%) web sites provide no customization features whatsoever. Furthermore, no web site was found displaying information based on previous user interaction and preferences stored in log files or in the form of cookies. A relatively significant and rather unexpected considering the previous results, number (108/232; 47%) displayed information on relevant or competitive commodities/services placing those sites in the suggestive level of customization. A small percentage (32/232; 14%) displayed further clarifications on issues not in the sphere of the knowledge of the user (informative level). Finally, there were no web sites found to allow changes in the format of the design, i.e. let the user permanently decide on the layout of the Web site as it appears on his/her client browser, neither did any attempt to identify the user's language and culture preferences based on the IP address of the user's system or on the user's selection of a region/country from a map/list available (figure 28).

Last, as far as available payment and shipping/billing options, the general picture of the results of the study proved disappointing (figure 29). Only 21/232 companies' web sites

(9%) provided a list of available payment options and just 3 of them (1%) described the steps to be followed for each option in some detail. The currency converter feature, often found in many international business-oriented web sites, was present only in 3/232 (1%). Universal terminology for payment and shipping/delivery, e.g. the universal term “postal code” used instead of the regional term “zip code”, appeared in 34/232 cases (15%).



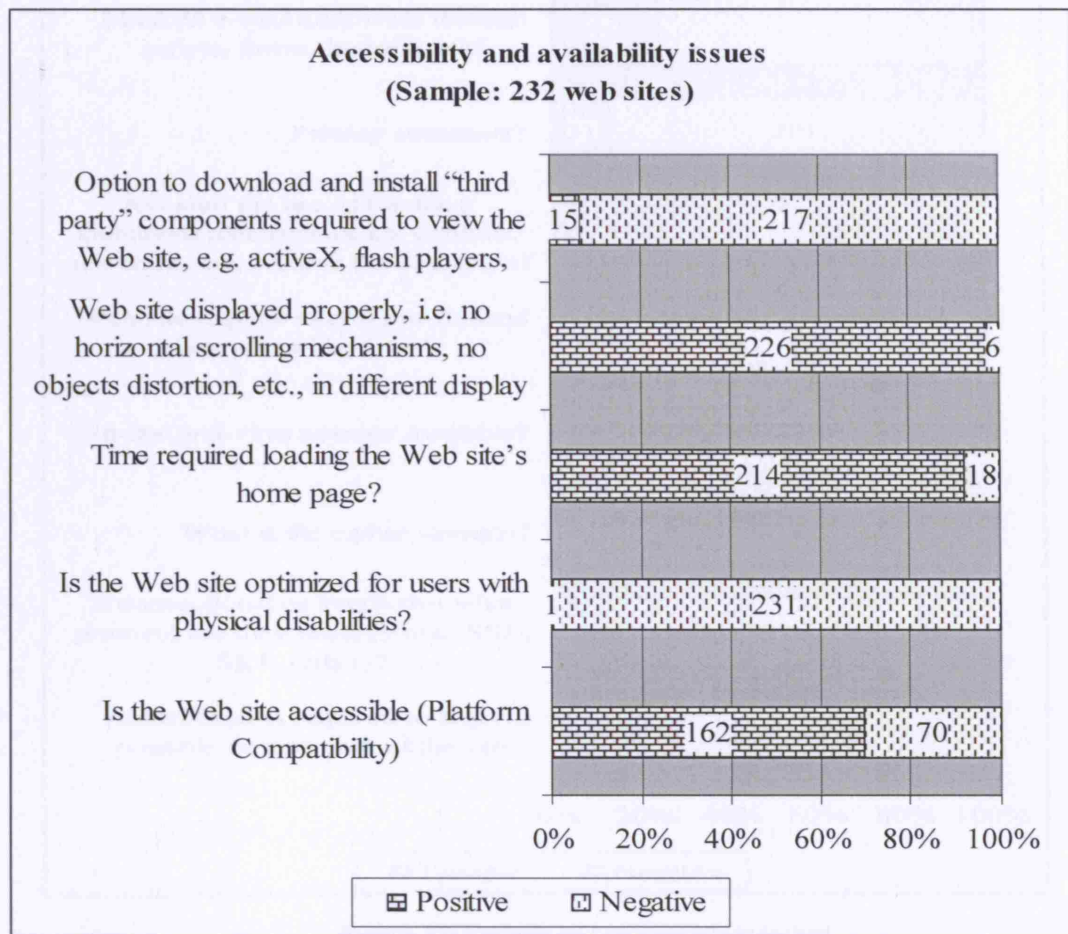
**Figure 29:** More globalization issues faced

#### 4.4.3 Accessibility, Hard/software requirements

The results of the evaluation concerning accessibility and hard/software requirements were radically different (figure 30). In most cases (162/232; 70%) the sites were accessible from the common different platforms, i.e. Windows, Linux. The results were also positive when the time to load the home page was evaluated (less than 10'' was considered a reasonable time) with 214/232 (93%) succeeding, as well as the proper display of the page contents without object distortion or any other display anomalies under different display resolutions (226/232; 97%). On the negative side, unfortunately as expected, only in 1 case were the web sites designed with the physically disabled people in mind. Also disappointing was the fact that in case third party tools were



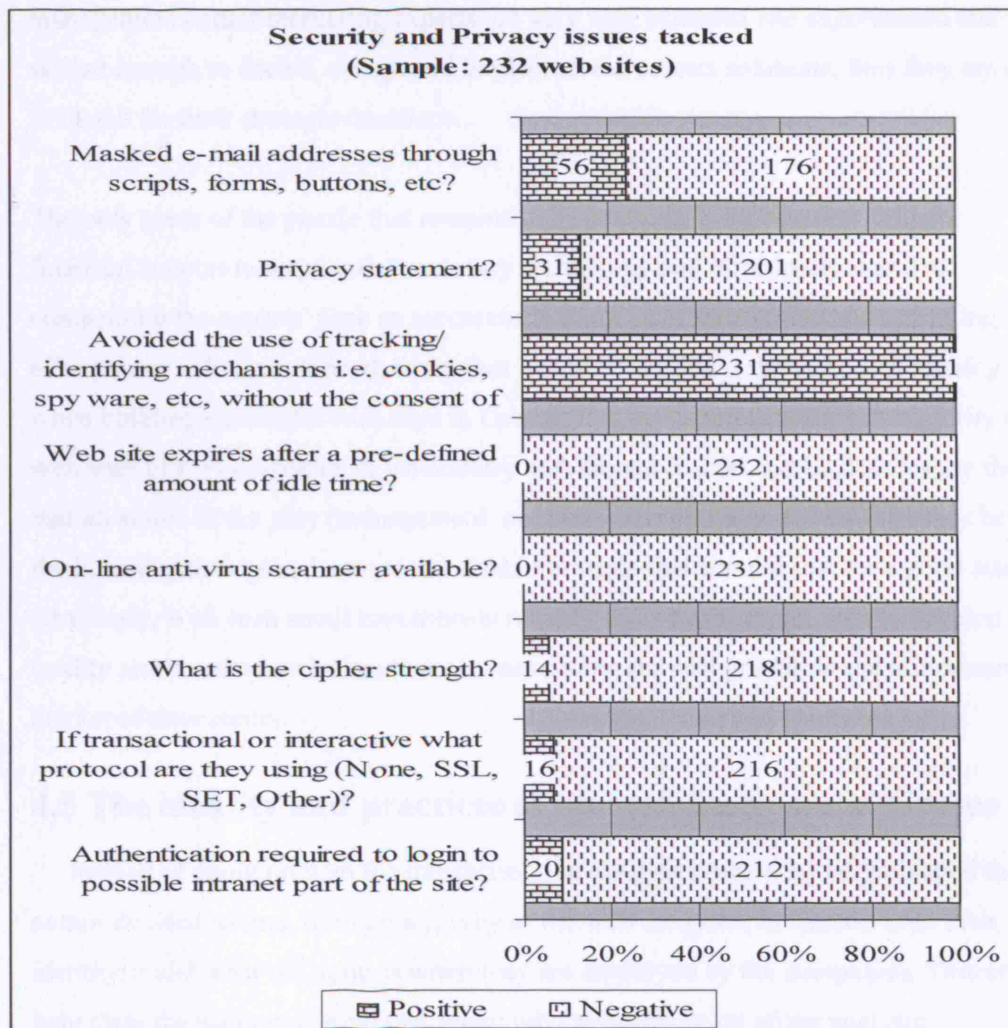
needed to run the web pages of a web site only in 15/232 cases (7%) were the options to download the respective tools given to the visitors.



**Figure 30:** Accessibility and availability issues

#### 4.4.4 Security, Privacy

The results of evaluating the web sites with security and privacy in mind were completely disappointing (figure 31). On the one hand, security concerns should be tackled but very little was found to be undertaken in this direction. Only 20/232 (9%) sites had some kind of authentication process running when a visitor requested to access to the companies'/organizations' intranet. Even less were the sites (16/232; 7%) protected by a security protocol like SSL, SET, etc. The cipher strength for the sites protected by such protocols was less than 128 (very low indeed) in 218/232 cases (6%). No on-line anti-virus scanner was available and no expiration time after a specific amount of idle time (as suggested for security purposes) was present and/or activated.



**Figure 31:** Security and privacy issues tackled

On the other hand, concerning the visitors' privacy, the study showed a tendency to avoid tracking/identifying mechanisms, like cookies, spy ware, etc. (231/232 cases; 10%) but there is serious doubt this was a conscious decision on the part of the companies' executives or lack of technical expertise required to implement it. Additionally, only 31/232 sites were found (13%) with a privacy statement (an utterly simple feature to realize), and only 56/232 (24%) cases of web sites with masked email addresses through scripts, forms, buttons, etc. for privacy-related reasons.

#### **4.4.5 Final comments on the quality of the eCommerce solutions in Greece**

Evidently, the eCommerce solutions of the Greek companies are weak and unable to provide the services and trust the Greek consumers demand in an attractive way. Indeed, this study has proven that the vast majority, and for what concerns all features except those related to the interface, Greek web sites fail to succeed in following the internationally accepted standards of successful eCommerce sites. The technology,

management and/or marketing experts are very well educated and experienced and skilled enough to decide, design and implement the correct solutions; thus they are not to blame for their strategic decisions.

The only piece of the puzzle that remains to be analyzed is the one that calls for financial support to acquire the necessary technology and infrastructure and to compensate the experts' time to successfully implement appropriate and appealing eCommerce solutions. Indeed, the author believes that this is the key point missing when building successful web sites in Greece. It is estimated that the vast majority of the web sites of the companies in the country cost around €1,000 and €2,000 despite the fact that all actors of the play (management, marketing, technology experts) strongly believe the investments required are at least double or triple that amount just for a good start. Obviously, with such small investments nobody should expect and plan to develop high quality and standard web sites that can make a boost a real growth in the eCommerce market of the country.

#### **4.5 The identity and practices of the web designers in Greece**

Instead of going on with the transaction log analysis process initially planned the author decided to find, through a survey of the web designers in Greece what their identity is and what the norm is when they are employed by the companies. This could help clear the mystery behind the, seemingly, non-utilization of log analysis methodology by the companies in the country.

##### **4.5.1 Main characteristics of the local web site designers**

The first remarkable conclusion of the interviews was that there are two different types of entirely different companies specializing in developing eCommerce solutions. There are very few, a handful actually, very large ones and quite many, probably in the range of three to four hundreds, very small ones. When asked about the size of their companies 12/20 of the interviewees (60%) revealed that in the web design department they employed only less than 5 individuals inclusive of the secretary. Furthermore, some of them admitted that from time to time this number was inclusive of their independent associates as well! The picture is exactly the same with those companies (6/20; 30%) that employed between 5 and 10 persons (in the web design department). There were only two cases, one of which was OTENET, the largest internet service provider in Greece, with more than 25 persons employed in the respective department of developing web sites.



As of the customer base of these companies, figures are quite depressing indeed. One of the companies had just less than 10(!) customers to serve. The majority of them 10/20 (50%) had between 10 and 25 clients, while 6/20 (30%) had between 25 and 50 customers. Only two such companies, one of which is the large OTENET, had between 50 and 100 customers. Needless to say all the numbers are on an annual basis. One of the interviewees did not even know the approximate number of his company's clients!!!

These numbers would not necessarily be poor if at least the size of the orders was substantial. However, even that part of the business was not promising. According to the interviewees, the main level of investment would be, on average, between €1,500 and €3,000 per web site for 12/20 companies (60%). This figure combined with the one related to the average number of clients (10 to 25 on an annual basis) would produce a gross income of around €40,000 or less ( $€2,250/\text{site} \times 17.5 \text{ clients}$ ) putting the viability of the business in doubt. Two more interviewees placed the size of the average order lower between €800 and €1,500 and one more put it even lower at less than €800 making the business environment in which these companies operate dim. Only two companies' representatives reported having orders in the, rather healthy financially, range of between €3,000 and €15,000.

As expected an initial investment on a simple web site is the request of the vast majority of the web designers' clients. Then, most frequently, an annual upgrade of the solution to better fit the new needs of the clients' is also requested. In half of the cases statistical reports on the visits of the clients' web sites on a regular basis (weekly, monthly, yearly) is also asked. However, as the web designers underline, most often although these reports are provided in the whole "package", meaning without extra charge, they are seldom looked at.

As of the issue of transaction log analysis, none of the designers admitted having had such a request ever from any client. The interesting point is that the same negative response came from the interviewee of OTENET, the company that, supposedly, has the largest clients.

#### **4.5.2 Key points to note**

The author started this part of the research with the goal of understanding the problem of underestimating web log analysis in Greece. However, eventually the interviewees revealed another issue far more important. The whole industry of developing eCommerce solutions in Greece is badly shaped. Two seem to be the structural problems of the sector, according to these people.

First, apparently, like in every other sector of the economy in Greece the very few large companies control the market by taking almost all the large and significant orders related to eCommerce solutions. This leaves no room for a mid-size class of web design companies but only for a large number of very small ones struggling to survive and usually failing unless they are involved with providing other types of services as well. Additionally, there is a significant number of secondary technical schools' graduates who are skilled enough to develop simple and cheap, or even free of charge, eCommerce solutions either as a way to get a "tip" from the companies without any other responsibilities as of the work done or as part of their internship in one of them.

Second, the vast majority of the clients, very small in size and investment made, usually do not understand the term eCommerce solution thinking of it as a onetime investment you make and wait for results in due time. Most of the times, if one web designer explains properly the notion of eCommerce and the real costs involved (in human resources, in time and in money spent) the clients go to the next door competitor who will tell them what they want to hear even if it is not the truth. That process depreciates the value of eCommerce by producing very cheap solutions as "you get what you paid for".

# Chapter 5: Findings Part II

## From the consumer's viewpoint

### 5.1 Introduction

The first point that came out of the previous section was that executives during the interviews showed enough and in a few cases overwhelming knowledge about eCommerce and great appreciation of its value in the future of business activities. Still, it was also proven that the web sites of the local businesses failed to follow the international academic and professional standards of quality eCommerce solutions with the only exception being the interface of these solutions. These conclusions were further stressed by the fact that, according to the web designers and developers, the solutions they are asked to implement are not just inexpensive but indeed cheap and not maintained.

One issue that was not clarified was why the professionals don't utilize the technology since they are the ones (presumably) that make the decisions for their companies. Instead of clearly providing an answer they blamed, directly or indirectly, the government and the consumers for the low achievements of eCommerce in the country. It was suggested that maybe the Greek governments have a very significant role to play in promoting eCommerce practices. The main incentive programs "eEpixeirein" and "diktiotheite" (free translation: "connect to the internet" and "make business online" respectively) should be reanalyzed, their disappointing results thoroughly studied and the whole idea revised and fine tuned to better suit the needs of the companies and, hence, make them more attractive. As to the consumers, executives implied they are the ones not helping in eCommerce growth as they don't seem to react positively to the online business efforts.

Apparently and in order to get a clear picture of the situation aiming to find an answer to the problem it was necessary to get the consumers' opinions, thoughts, beliefs about eCommerce in Greece, their view of the role of internet in their everyday life, their perception of the quality of the Greek web sites and how much does this affect their engagement or not in eCommerce activity. The ideal case would be to get the answers to these questions from a transaction log analysis of the web logs of some of the major retailers or wholesalers in the country by tracing online visitors' navigational habits and

reactions to the content of the sites. This, however, proved to be not feasible as it was extremely difficult to get such logs and in the very rare cases this was achieved the logs themselves were unusable as they were not supported by the respective databases of the companies' clients. The byproduct of the attempted investigation in respect to web log analysis was that this technique/methodology is at best in its infancy in Greece, if not completely unknown.

Hence, a less direct methodology, i.e. a survey, was followed to find answers to the aforementioned questions. A significant number of people of different ages and backgrounds, were approached at various locations, and were asked to contribute their opinions about certain issues involving, mainly, their attitude towards eCommerce practices but also the internet, in Greece and internationally. The idea was to be able to compare the ideas, thoughts and opinions of company executives about eCommerce against those of consumers and see whether there is a gap to be bridged or not. Also, an experiment took place with a very small but rather representative number of individuals, not directly related to the information and communications technology, evaluating a small but representative number of the same web sites as in the previous section. The purpose was not to test how well non-experts evaluate a web site but instead to see if the differences in the evaluation results, based on the same suggested template, are significant. Should they not be, then, it could reasonably be claimed that an expert's opinion about the quality of a web site in general is more or less the same as every person's opinion.

In section 5.1 the results of the experiment on the evaluation of the selected web sites from a number of selected non-IT experts but otherwise professionals is presented. The objective is to test the hypothesis that there are no major differences between an expert's and a non-expert's evaluation of the web sites based on the same internationally agreed standards. It is important, before any other conclusions may be drawn, to see what non-IT professionals perceive of the quality of the local online businesses web sites even if this is the result of an experimental survey of a small scale.

Section 5.2 presents the survey's results concerning participants' attitude towards the internet technology. Its role is to find the quality elements behind internet usage, i.e. how age, gender, education, occupation, background, family income and CR/DB card ownership affect internet usage. Some of the results indeed verify other quantitative surveys on internet penetration and use in the country. The section is important as it

provides a forward feedback as of what one should expect from the consumers part in regard to the possibility of their engagement in eCommerce activity.

In section 5.3 the results from the same survey related to respondents' thoughts and behaviour in connection to eCommerce practices both locally and internationally are presented. Once again mainly qualitative elements are of interest here, for example whether consumers have the intention of using the CR/DB card for online transactions, their past experience of online transactions, their preferences of products, services or activities they would be most willing to purchase, hire or engage online. The importance here is that it presents the type of online transactions most likely to take place by individuals in the country which, indirectly, could identify the types of local online businesses that could flourish.

In order to ensure that the results from the study are clear as of the reasons behind the fact eCommerce activity is not progressing in the country it was thought proper to ask the consumers, directly, why they are distant from such practices as online transactions, what are those obstacles or barriers that discourage them, whether they trust international well-known brands more than the local ones, if they simply don't find this kind of buying experience interesting or worth the risks they believe are related, or if they are not comfortable with it. All these points are presented in section 5.4.

## **5.2 Experiment on web site evaluation from a consumer's viewpoint**

### **5.2.1 Characteristics of the experiment**

Only six (6) companies' Web sites (table 5.1), out of 232 used in the previous part, were selected, a process which was explained in the methodology chapter. Also, only fifteen (15) users (table 5.2) were assigned the task of evaluating the selected Greek Web sites based on the same evaluation template used in the first part. The user sample was selected based, firstly, on their professions or fields of study so that users should not be directly related with the Information Technology sector and not have extensive knowledge of internet, networks, or computer science issues and, secondly, with the goal of achieving as much profession diversity as possible. Only Greek and Greek/Cypriot individuals, male or female, were asked to participate in order to ensure a match between users who share the same culture, language and religion with the target audience of the Greek Web sites. In all, the findings correspond to 90 different cases for each of the participants and each of the web sites (6 web sites x 15 participants).

#	Company	Web site	Rating	Score
1	Vodafone – Panafon S.A.E.T.	<a href="http://www.vodafone.gr">http://www.vodafone.gr</a>	Good	32
2	Forthnet S.A	<a href="http://www.forthnet.gr">http://www.forthnet.gr</a>	Good	28
3	Datablue S.A	<a href="http://www.datablue.gr">http://www.datablue.gr</a>	Average	20
4	Telepassport Hellas	<a href="http://www.telepassport.gr/">http://www.telepassport.gr/</a>	Average	16
5	Motor Press Hellas AEE	<a href="http://www.chip.gr/">http://www.chip.gr/</a>	Bad	13
6	Cardisoft S.A.	<a href="http://www.cardisoft.gr/">http://www.cardisoft.gr/</a>	Bad	1

**Table 5.1:** Company sample for consumer evaluation of Greek Web sites

User	Sex	Age	Work Title/ Field of Study
#1	F	23	Coastal Engineering
#2	M	26	Dentist
#3	F	25	English Literature
#4	M	27	Management
#5	M	25	Electronics
#6	M	25	Electronics Engineer
#7	M	26	Biology
#8	F	28	Greek Language & Literature
#9	F	25	Mathematics
#10	M	28	Electronics/Medical equipment
#11	M	26	Electronics engineer
#12	M	24	Electronics programmer
#13	M	24	Automatist
#14	F	22	Arts & design
#15	M	24	Mechanical engineer

**Table 5.2:** Sample of participants' characteristics

### 5.2.2 General comments

During the evaluation, the author was asked by a number of users to elaborate on the evaluation questions in order to clarify the technical terms used. Depending on each user's knowledge, questions varied from simple clarifications to complete explanations of computer terms. There were even a few questions on which all of the users had been unable to answer without assistance:

1. Concerning web site accessibility from various platforms, all users seemed to have assumed that the websites were accessible from other devices and, consequently, answered positively,

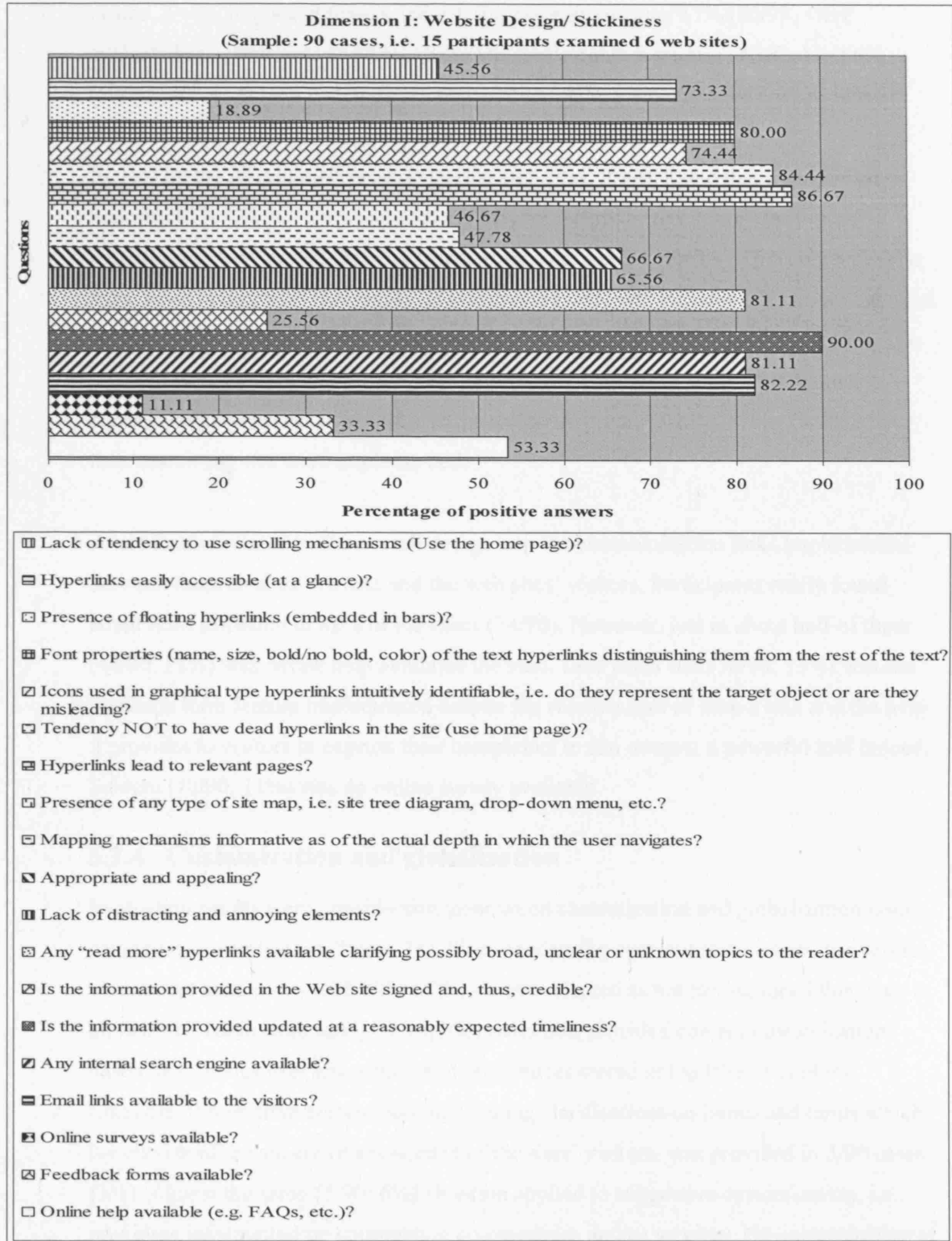
2. Concerning web site optimization for users with disabilities, all users intuitively replied negatively to this question,
3. As to the term “floating hyperlinks”, 73% of users required a definition of a “floating hyperlink” which was promptly provided,
4. Another term, “information signing and credibility”, proved to be difficult for the participants to determine as 67% required explanations on how to distinguish signed from unsigned information,
5. 40% wanted to know how to identify whether any protocol was applied on an eCommerce web site in the question “if transactional what protocol used?”
6. In the case of vertical scrolling mechanisms, on some web sites it appeared that even if the home page was one-page, that is all content could fit in one screenshot only and, hence, there was no need for scrolling mechanisms, yet such mechanisms existed. This effect confused 33% of users who didn’t know what exactly to answer when asked about the presence of “scrolling mechanisms”,
7. Fewer users had concerns regarding a Web site’s privacy statement; 27% of users found it very difficult to locate the privacy statement in the Web sites and guidance was provided,
8. Site maps were easy to locate since 0% asked for clarifications but 13% of users asked for elaborations on “what the actual depth a user navigates in” means when site maps are investigated,
9. Finally, the least asked question was the “option to download third party components”; only 7% of users needed in need to know how to identify third party components from a website.

### **5.2.3 Web site design/stickiness**

Figure 32 illustrates users’ evaluation of the sample of Greek web sites in relation to their design. As seen in a previous chapter, the use of scrolling mechanisms in web sites is generally accepted to not be a good design feature as it can sometimes prevent useful content from appearing in the user’s view. In 41/90 cases (46%) the participants’ verdict was positive, as they found such a feature was not included in the design of the sites.

A second feature related to the design of the web sites is the quality and characteristics of their hyperlinks. Certain properties of the hyperlinks have negative effects while others have definitely positive effects in the appearance and the functionality of a site. In the case of the study, in 66/90 cases (73%) the sites satisfied the demand for easily accessible hyperlinks. However, in only 17/90 web sites were floating hyperlinks found; a very low 19% for a very powerful feature. Most site cases (72/90; 80%) did not arouse any complaint when the font properties of their text hyperlinks were examined whether

they were distinguishable from the rest of the content. Likewise, just slightly fewer (67/90; 74%), of those cases were icons used as hyperlinks and they were found to be intuitively identifiable. Lastly, still concerning hyperlinks, in the vast majority of the cases the hyperlinks did not lead to a dead end (76/90; 84%) and the leading page was relevant to the site (78/90; 87%).



**Figure 32:** Dimension I – Evaluation of Web sites' design/stickiness



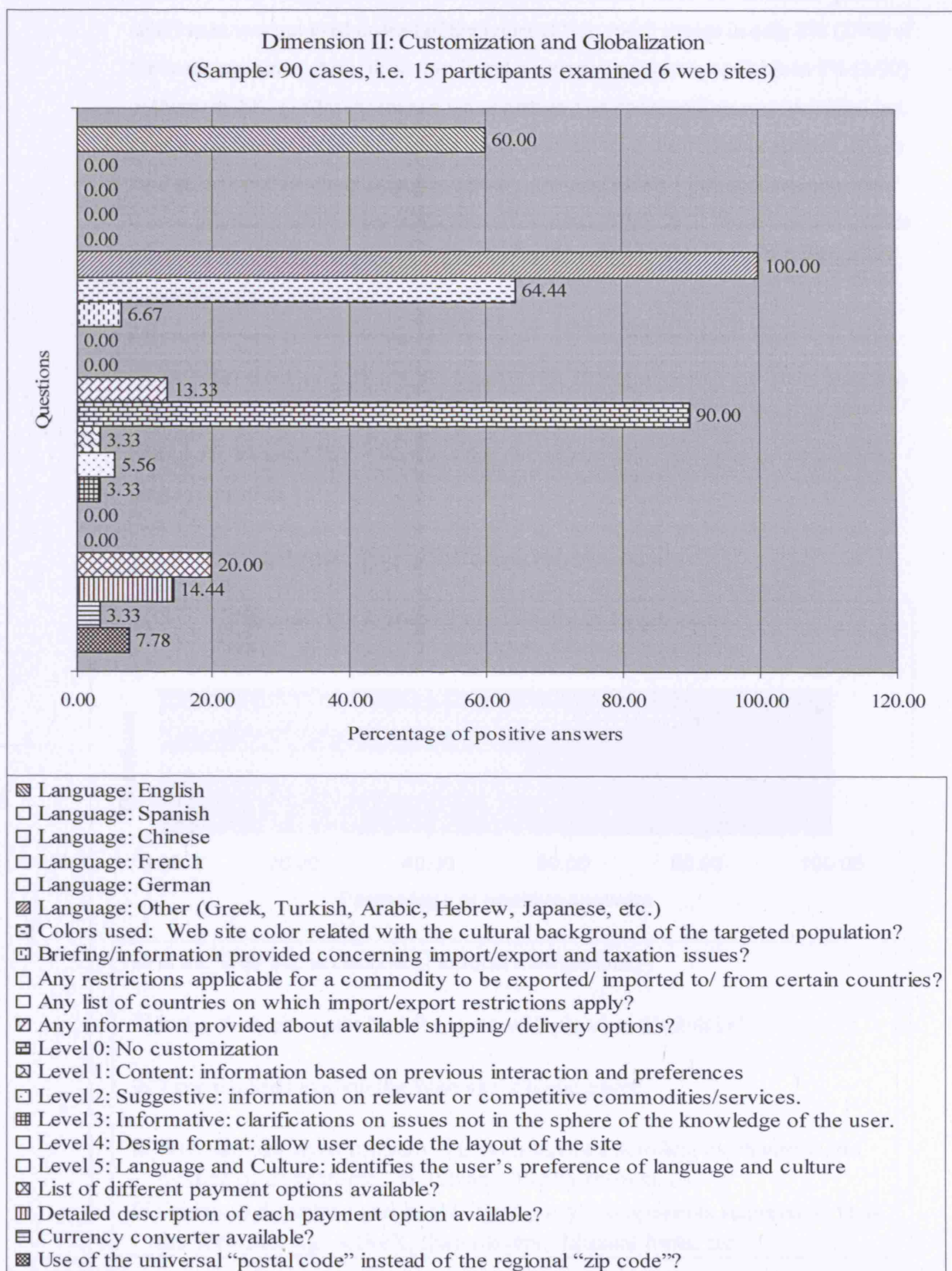
A third feature, rather critical for the user friendliness of a web site, is the presence and effectiveness of any type of site map. Fewer than half of the cases (42/90; 47%) introduced a type of map like a site tree diagram, drop-down menu, etc. Also, in fewer than half of them (43/90; 48%) the participants found the mapping mechanism to be informative as to the actual site depth the user is in. As for the general user interface design, a very important feature indeed, the majority of cases 67% (60/90) were evaluated as appropriate and appealing. The participants were also satisfied in 66% (59/90) of the cases in which distracting and annoying elements were not introduced.

Regarding the information provided in the web sites, it was found that in their vast majority 81% (73/90), they included the helpful feature of providing “read more” hyperlinks to further enlighten on broader issues somehow related to the content of the sites. Even better, with the quality of information provided in terms of its timeliness and regular update the participants had a positive reaction in 90% (81/90) of the cases. The problem was, though, that only in few cases 26% (23/90) was the credibility and accuracy of the content apparent to the users/participants. Finally, 81% (73/90) of the time search engines were implemented.

A last feature related to the overall design was the communication links implemented between the web sites’ owners and the web sites’ visitors. Participants easily found email links available in 82% of the cases (74/90). However, just in about half of them (48/90; 53%) was online help available the sites. Less often still (30/90; 33%) was the feedback form feature implemented despite the relative ease of such a task and the help it provides to visitors to express their complaints to site owners, a powerful tool indeed. Seldom (10/90; 11%) was an online survey available.

#### **5.2.4 Customization and globalization**

Evaluation results were considerably poor when customization and globalization issues came under examination (figure 33). First, concerning customization issues, the verdict was almost unanimous with 90% of the cases evaluated as not having faced this issue at all (81/90). There were rarely (3/90; 3%) cases that provided content customization based on previous user interaction and preferences stored in log files or cookies. Likewise, informative customization, meaning clarifications on issues and terms which lay outside of the sphere of knowledge of the sites’ visitors, was provided in 3/90 cases (3%). Almost the same (5/90; 6%) situation applied to suggestive customization, i.e. providing information on competitive commodities and/or services. No customization at all related to the language and/or culture of the potential or returning visitors was provided.

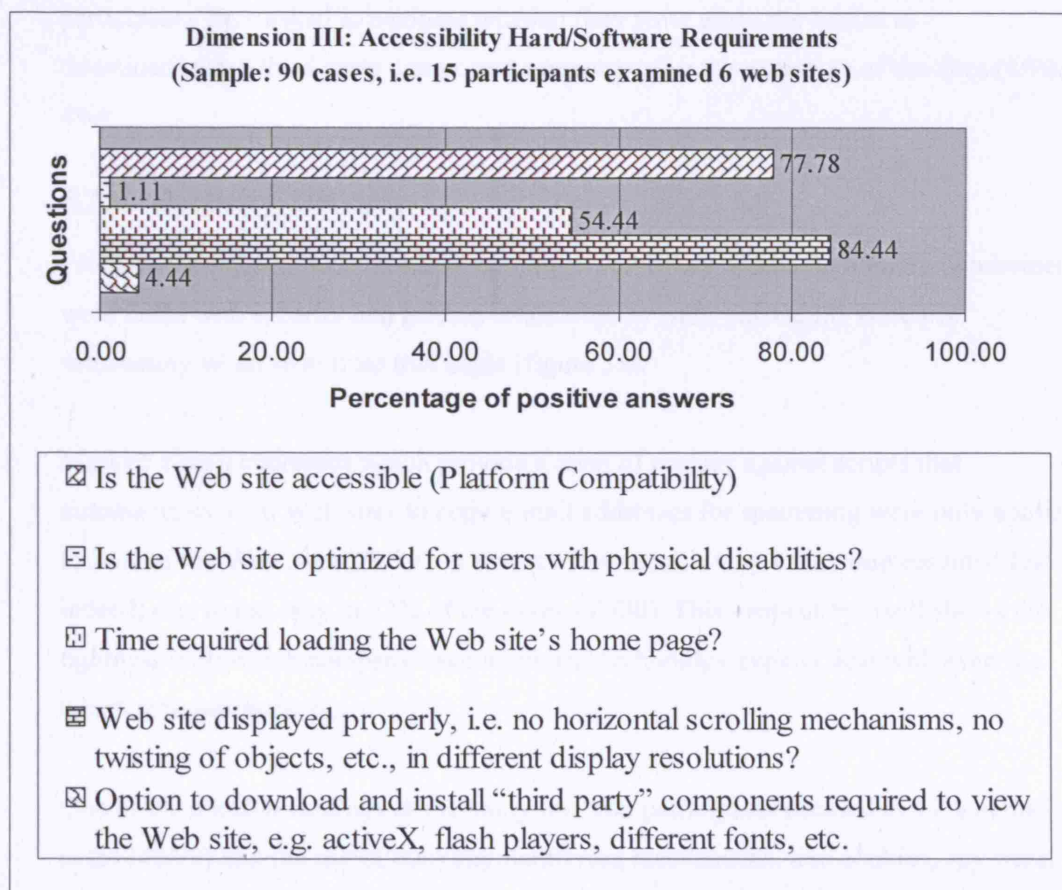


**Figure 33:** Dimension II – Evaluation of Web sites' customization/globalization

Second, concerning globalization issues, the participants found the universal “postal code” term was not used instead of the regional “zip code” except in only 8% (7/90) of the cases examined. Also, they only found a currency converter available in 3% (3/90) of them. In 20% (18/90) of cases a list of different payment options was identified but, even so, in fewer (13/90; 14%) there was a description of the available options, or any kind of information about shipping/delivery options (12/90; 13%) and, seldom, was there a brief on import/export and/or taxation issues (6/90; 7%). There was no possible reference to countries for which import/export restrictions applied and what kind of restrictions these might be.

On the other hand, as expected, all cases (90/90; 100%) supported the Greek language and 60% of them (54/90) English. No other language was supported. Participants believed in 64% (58/90) of the cases that the colours used were appropriate given the target population.

### 5.2.5 Accessibility, Hard/software requirements



**Figure 34:** Dimension III – Accessibility, Hard/software requirements

Accessibility, hardware and software requirements had been the most controversial and problematic part of the evaluation (figure 34). This was, mainly, because of the problems the participants faced in understanding the issues involved and how to evaluate the cases against them. Almost in all cases (76/90; 84%) the web sites displayed the content properly, i.e. no horizontal scrolling mechanisms, no distorted objects in different display resolutions. In most of the cases, Greek Web sites were able to operate on different platforms (70/90; 78%) according to the users' opinion. About half of the sites (49/90; 54%) were able to load in a reasonable time. This last finding, though, could be biased as it was not checked whether all participants had the same internet connection and connection speed, a fact that could greatly affect the results of the study on this specific point.

On the other hand, it was found that people with health disabilities would not be able to properly navigate through any of the Greek Web sites under the microscope as only one user gave a positive answer to just one of the 6 web sites examined (1/90; 1%) and the researchers cannot validate this answer alone. The results were also quite poor when the participants were asked to evaluate whether they were given the option to download/install third party components necessary for the operation of the sites (4/90; 4%).

### **5.2.6 Security, Privacy**

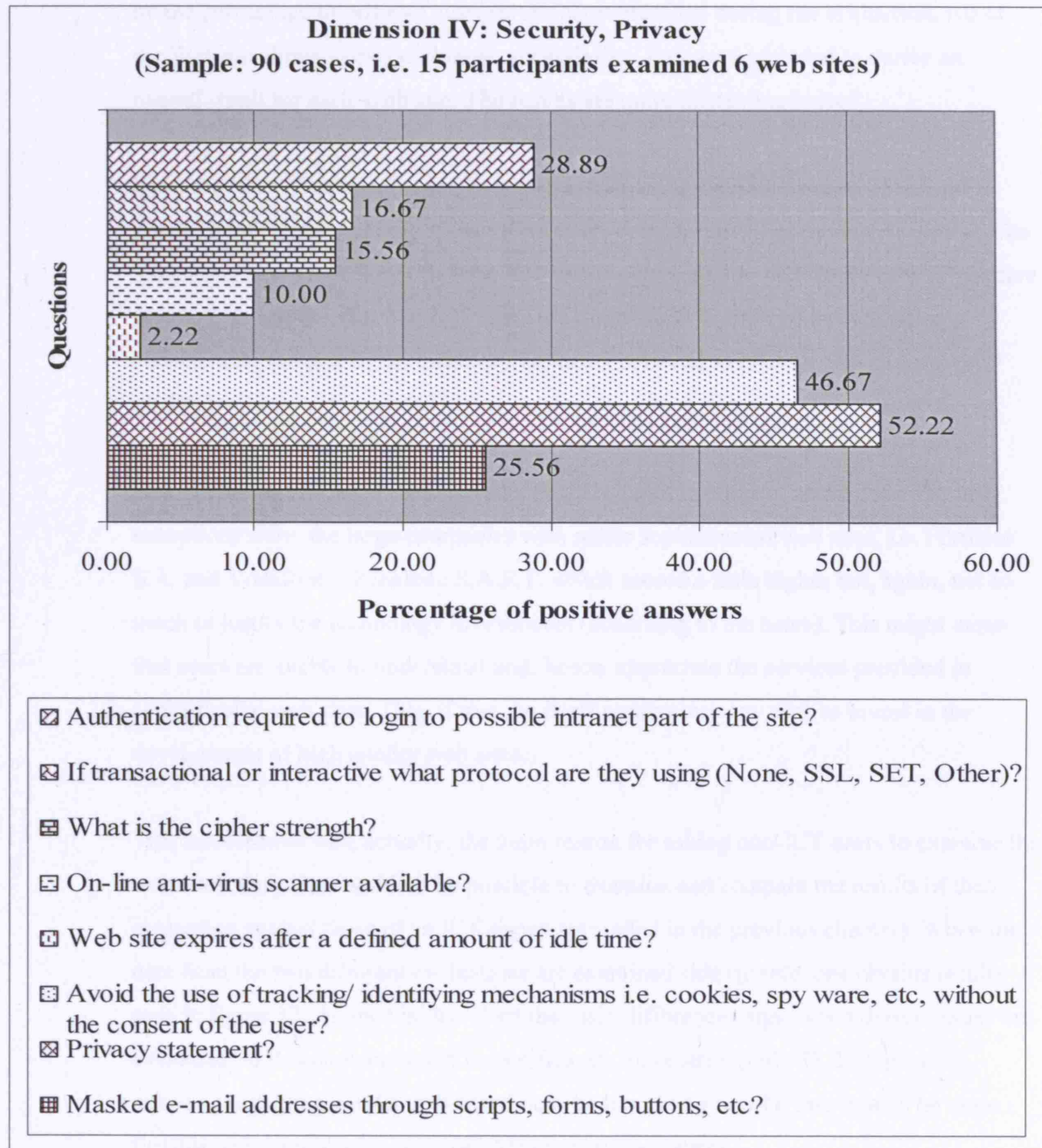
Problems similar to those faced concerning accessibility and hard/software requirements were faced with security and privacy evaluation as well. The results were not satisfactory when seen from this angle (figure 35).

Masked e-mail addresses which provide a level of privacy against scripts that automatically scan Web sites to copy e-mail addresses for spamming were only applied to 26% of the Web sites (23/90). A privacy statement, a very easily implemented feature indeed, was found only in 52% of the cases (47/90). This element by itself shows the lightness with which company executives and technology experts deal with even the simplest issues/features.

One of the peculiar findings of the study was that participants decided in 47% of the cases (42/90) that the use of tracking/identifying mechanisms, like cookies, spy ware, etc. was avoided. However, it is doubtful whether participants had the knowledge and skills to evaluate the web sites against this feature as the questions they asked showed some lack of understanding of the basic issues involved. Only 29% of the time (26/90 cases) was there was a login process to authenticate a visitors' intention to enter the



intranet of the web site. In only 17% of the cases (15/90) were appropriate protocols recognized that could provide the means for secure transactions. Security issues such as the cipher strength in transactional Web sites was lower than the accepted secure standard of 128bit, rendering online transactions more vulnerable to sniffing attacks and affecting customers' sensitive data such as credit card numbers (14/90; 16%).



**Figure 35:** Dimension IV – Security, Privacy

Finally, online anti-virus scanners, which provide mere protection against internet worms, viruses and sometimes malicious scripts, were not identified in all but 10% (9/90) of the cases. Likewise, and even worse, just in 2% (2/90) of the cases the participants found the sites expired after a pre-set amount of idle time; a feature seldom

implemented considering that, anyway, by default web sites automatically expire after some time.

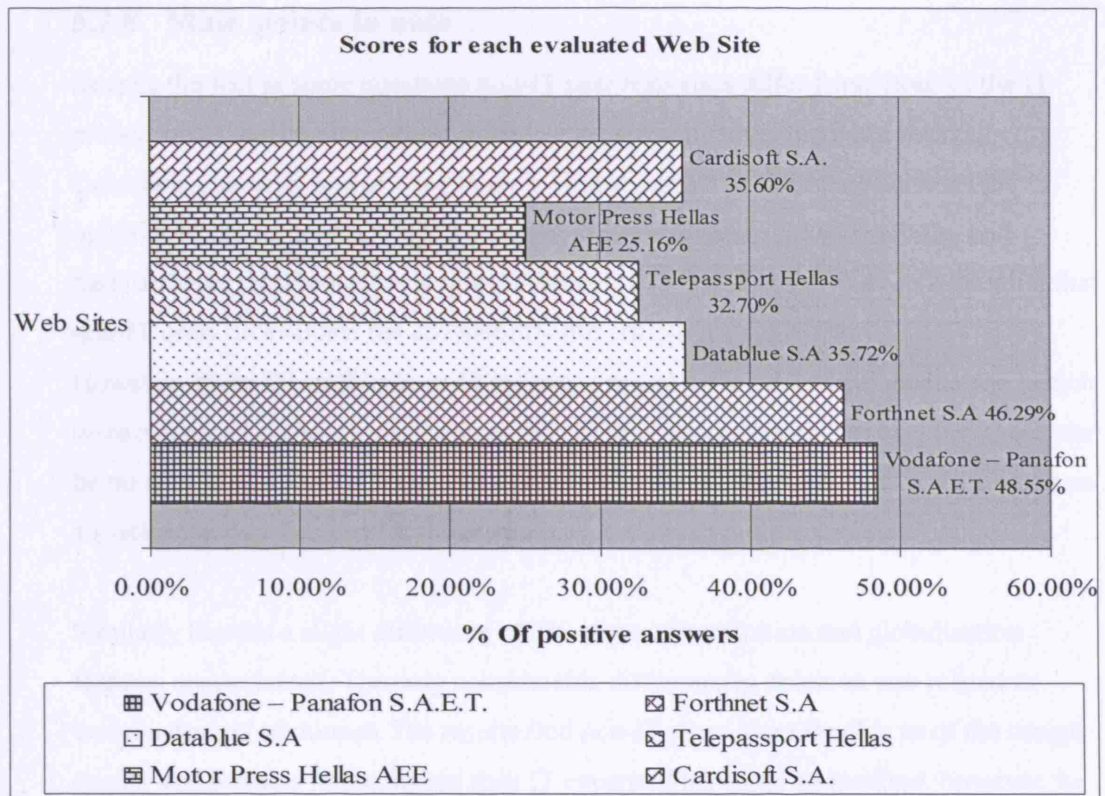
### **5.2.7 ICT experts vs. non-ICT users overall evaluation of web sites**

Figure 36 provides the average separate scores for each web site which were measured by the percentage of positive answers the users provided during the evaluation. All of the Web site dimensions (stickiness, accessibility, etc) were included to derive an overall result for each Web site. The results are quite interesting indeed.

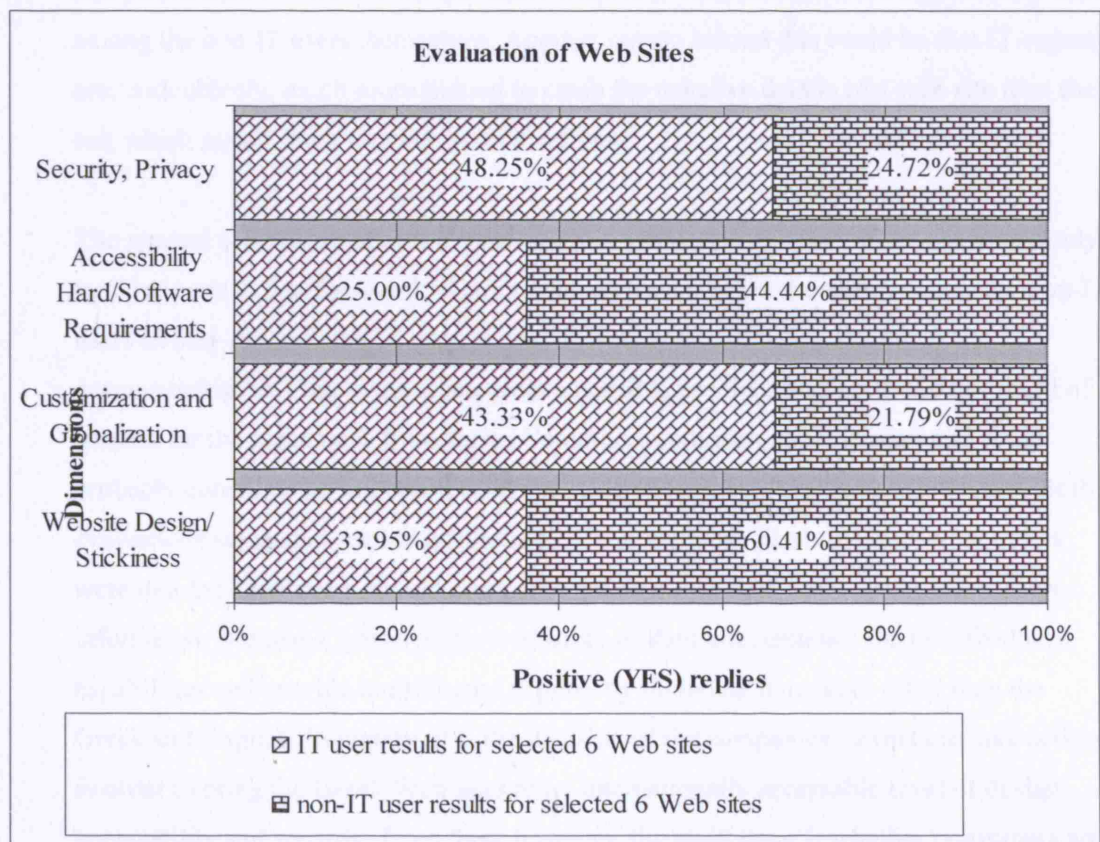
First, the Motor Press Hellas AEE web site received an overall score of 25% (200 positive, 595 negative points from the 15 users considering 53 questions/elements). The interesting part about this is that the ICT experts gave a quite poor score of 1/53 positive points. This implies that non-ICT users are quite more flexible when evaluating a considerable number of the questions/elements believed to affect a web site's overall quality.

Second, the rest of the sites achieved a positive point average of about 35%. The only exceptions were the large companies with rather sophisticated web sites, i.e. Forthnet S.A. and Vodafone – Panafone S.A.E.T. which scored a little higher but, again, not so much to justify the technology investments (according to the users). This might mean that users are unable to understand and, hence, appreciate the services provided in sophisticated web sites. This, if true, by itself undermines any plan to invest in the development of high quality web sites.

This last element was, actually, the main reason for asking non-ICT users to examine the web sites. Only thus would it be possible to examine and compare the results of their evaluation against those of an ICT expert (provided in the previous chapter). When the data from the two different evaluations are examined side by side, one obtains results seen in figure 37. As seen in this chart the main differences arise when design issues are evaluated. In this case an expert is significantly more strict (only 48.25% positive answers) regarding what a web site should be like than a non-IT user who is more flexible and exercises leniency (60.41% positive answers).



**Figure 36:** Scores for each evaluated web site



**Figure 37:** Overall evaluation of Web sites



### **5.2.8 Main points to note**

Despite the fact in some questions non-IT user responses differ from those of the IT professionals, the results suggest there is a general agreement between them.

Concerning security and privacy there is almost just a 7% difference between the opinions of the responses while the results of the evaluation for accessibility and hard/software requirements are quite balanced. This could be taken as an indication that non-IT users do evaluate the accessibility dimension in a similar way with IT users.

However, given the problems and limitations raised during the users' evaluation, which were explained earlier in the findings section, it is also reasonable to take that there can be no safe conclusion on the matter as the users mainly intuitively and far less based on a systematic way decided for the answers.

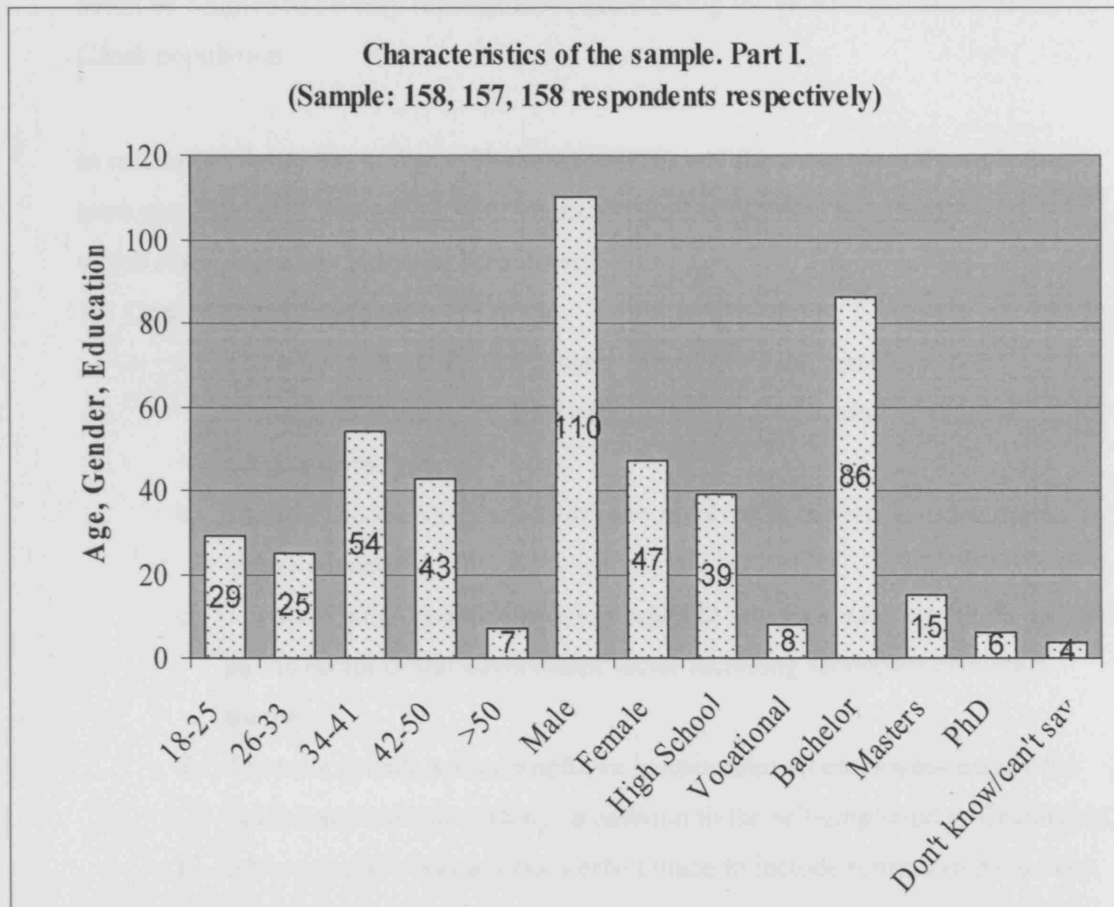
Similarly there is a slight difference of 3% when customization and globalization features are evaluated. The only considerable difference in opinions was related to website design/ stickiness. The results find non-IT users more flexible as of the design quality and features implemented than IT experts. This could be justified, however, by the fact that this experimental evaluation involved 15 users with different backgrounds and personalities, therefore design issues such as attractiveness varied significantly even among the non-IT users themselves. Another reason behind this could be that IT experts are, undoubtedly, much more trained to catch the negative details of a web site than the rest which makes them tougher in their critique.

The general conclusion after the results of this evaluation and that of the previous study by IT experts is that the Greek eCommerce Web sites failed the evaluation of the non-IT users as they did with the IT experts with the exception of the general web site design/stickiness. This by itself suggests a possible problem leading to the low yield of income for the companies from their eCommerce solutions implemented and could probably constitute an important factor causing eCommerce stagnation in Greece. Both evaluations suggested several attributes for improvement. The most important points were that the developers should consider implementing floating hyperlinks and more informative site maps, improve the credibility of their site, enhance the user feedback capabilities and provide multilingual support by including languages other than the Greek and English. Evidently, it is the decision of the companies' owners to take actions in order to bring the Greek Web sites to an internationally acceptable level of design, accessibility and security. Even then, however, the main issue is whether consumers are interested in the internet technologies.



## 5.3 Consumer preferences concerning internet technology

### 5.3.1 Characteristics of the sample population



**Figure 38:** Characteristics of the sample. Part I (by age, gender and education)

In order to trace consumer behaviour, i.e. preferences and opinions on eCommerce and the internet technology, a total of 158 people in various places (e.g. colleges, universities, activity clubs, supermarkets, churches, business places, etc.) in the city of Thessaloniki took part in this off-line survey. Their ages varied in an attempt to have as representative a sample as possible; some of them were male while others female, coming from different backgrounds as far as the level of their education, their occupation and background. An effort was also made to approach and get opinions from people with different annual household income. Another parameter of the survey was whether the respondents owned a credit or debit card or not.

As can be seen in figure 38, all ages with any significance as to eCommerce activity are considerably represented by a population with the exception of the rather limited number of people aged more than 50. Also, both genders contributed despite the fact that two thirds happened to be males. With regard to education, the vast majority had a

bachelor's degree and quite a few had just graduated from high school; only a few of the participants happened to hold a master's or PhD degree and even fewer came with some type of vocational studies. In other words, concerning the educational level the sample could be claimed to be very representative considering the general education of the Greek population.

In relation to figure 38, in figure 39 the reader may see the categories of people that have participated in this survey with respect to their occupation and background. It is worth clarifying a few points in both cases:

1. Concerning occupation:

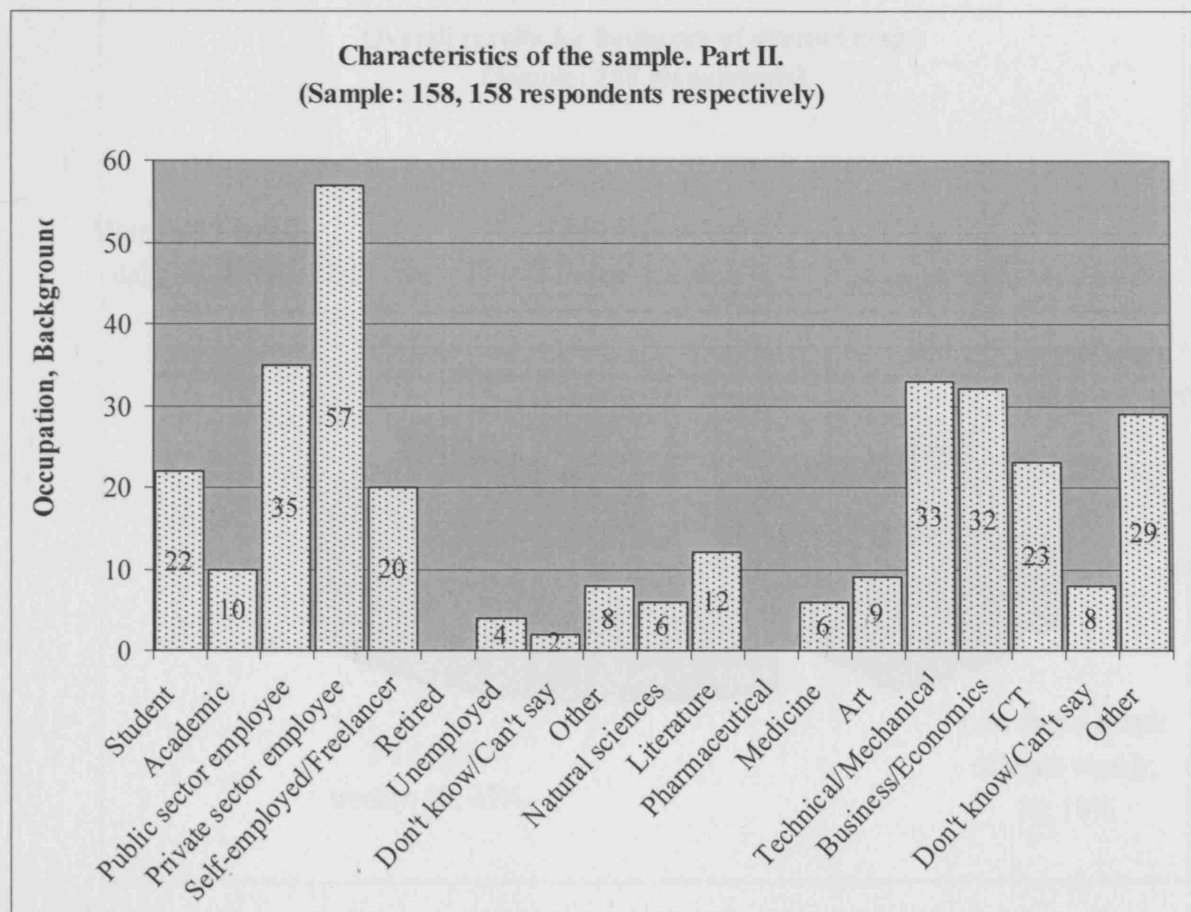
- a. The term students includes every person involved somehow in the educational process, be it secondary or higher education, vocational or any other student type,
- b. The term academic refers to anyone involved in the process of teaching in higher education,
- c. The term public sector employee refers to someone working for the general public sector or the government sector including secondary education teachers,
- d. The term private sector employee incorporates all employees except the cases mentioned previously in addition to the self-employed or freelancers,
- e. Although there was a serious effort made to include retirees in the survey, none felt comfortable in doing so despite their good intentions. This, of course, by itself could point to a third age abstinence from anything concerning the new technologies,
- f. There were cases in which the participants had difficulties in determining their actual position in this categorization either because they didn't know or because they belonged to more than one category. In such cases they responded either "doesn't know/can't say" or "other".

2. Concerning the respondents' background:

- a. All persons coming from an educational background in physics, chemistry, geology and the like belong to the natural sciences background,
- b. Those coming with a background in philosophy, literature, linguistic and the like were all grouped as literature,
- c. All types of medical doctors belonged to the category of medicine,
- d. Different kinds of artists, be they musicians, painters or other were put in the art category,

- e. Various types of mechanical experts, including car mechanics, electricians, plumbers and the like are in the technical/ mechanical category,
- f. People with a background in business, finance, accounting and so on belong to the business/economics category,
- g. ICT category involves the persons somehow related to the information and communications technology,
- h. Finally, there were a substantial number of participants whose background did not belong to any of the above categories (e.g. athletes).

As seen in this figure (figure 39) an effort was made to have a few persons from each category of occupation and background. As mentioned earlier in this section the only problems were associated with having people in retirement contribute, despite their good intentions, probably due to the lack of knowledge on the matters under study. Also, for some reasons not controlled by the author it was impossible to find pharmacy owners to contribute even when such places were visited. In all cases only the clerks were found and their opinions recorded in the survey.



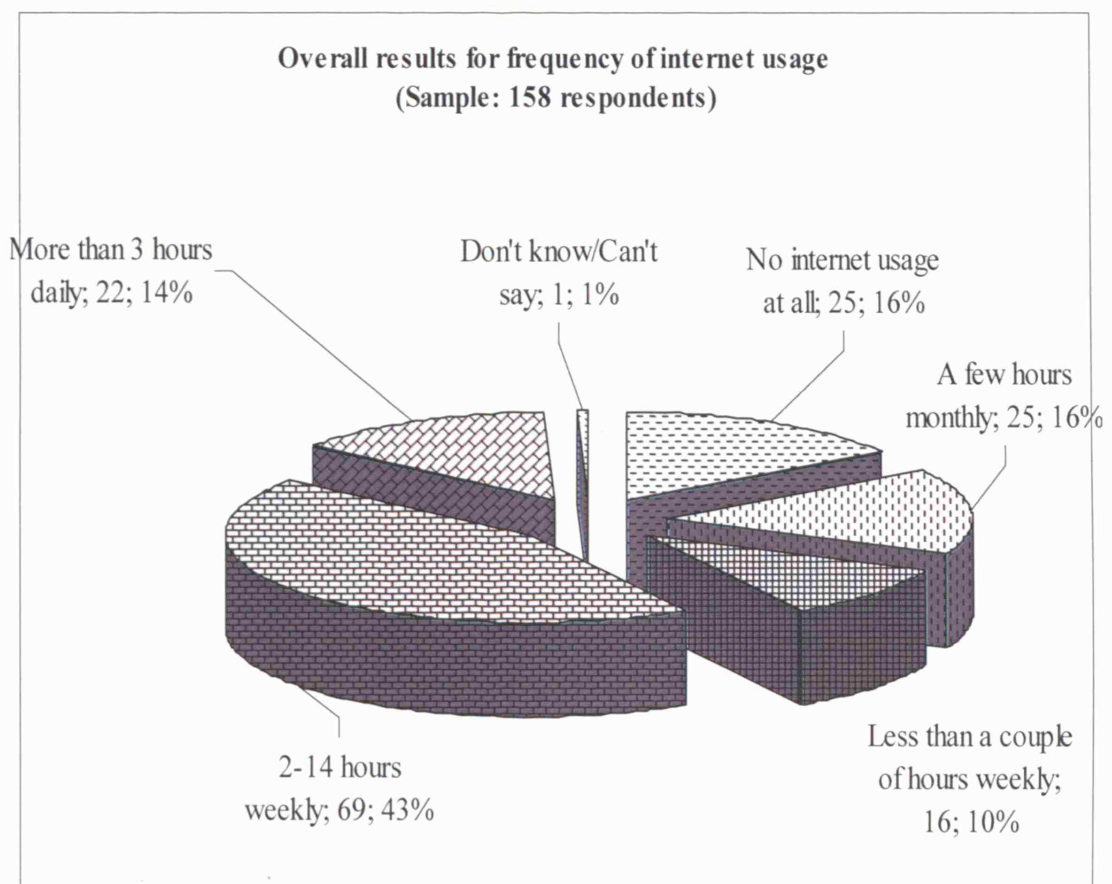
**Figure 39:** Characteristics of the sample. Part II (by occupation and background)

### 5.3.2 Frequency of internet usage by consumer age, gender and education

This survey verified other quantitative surveys that took place in the country but added a few interesting points (figures 40, 41). In order to better divide the groups of respondents based on the frequency of internet usage we introduced two terms:

- the term “monthly basis” meaning spending no time at all in the internet up to the point of spending just a few hours per month, and
- the term “weekly basis” meaning spending at least about a couple of hours weekly online up to the point of staying online for more than 3 hours a day.

Figure 40 illustrates the overall results for the frequency of internet usage. The majority of the sample population (69/158; 43%) claimed to use the internet 2-14 hours on a weekly basis, another 14% (22/158) reported more than 3 hours of daily usage and a 10% of the population (16/158) admitted staying online less than a couple of hours weekly. This means 67% of the participants are weekly users. The remaining 33% are monthly users (25/158; 16%) or no users at all (25/158; 16%).



**Figure 40:** Overall results for frequency of internet usage

In an attempt to identify possible patterns for this internet usage by age, gender and education, figure 41 illustrates the various elements of these survey results with respect

to the three aforementioned parameters. In the subsections that follow, the specifics of this part of the findings are analyzed.

### 5.3.2.1 The role of education

According to this study (figure 41) like with other ones conducted locally, education plays an important role in the use and frequency of internet usage. The more educated a person is the more likely it is that they will use the internet and, furthermore, the more time they will spend using it. Indeed, in the case of just high school graduates, a significant 8/39 persons (21%) did not use it at all, 9/39 of them (23%) use it just a few hours a month (certainly less than 5 hours) and some of them (4/39; 10%) use it up to 2 hours a week. The majority of the respondents who completed high school (14/39; 36%) are connected between 2 and 14 hours a week and 4 of them (4/39; 10%) more than 3 hours a day.

The pattern of internet usage is only slightly improved in the case of people with vocational education. 2/8 of them (25%) said they do not use it at all and just 1/8 (13%) use it less than 2 hours a week. Most of them (4/8; 50%) used it between 2 and 14 hours a week and, again, just 1/8 (13%) use it more than 3 hours a day. Clearly, there is a slight shift from the monthly basis to the weekly basis.

The previous shift of internet usage to a weekly basis continues as we move to populations with a higher education (mainly university) degree. A percentage of people (14/86; 16%) smaller than in the previous categories said they do not use the internet at all and another 19% (16/86) seldom use it just a few hours a month. On the other hand, 10% of them (9/86) use it on a weekly basis even a little (less than 2 hours a week) but a solid 40% (34/86) is online between 2 and 14 hours a week and another 14% (12/86) is connected more than 3 hours a day (one person could not say).

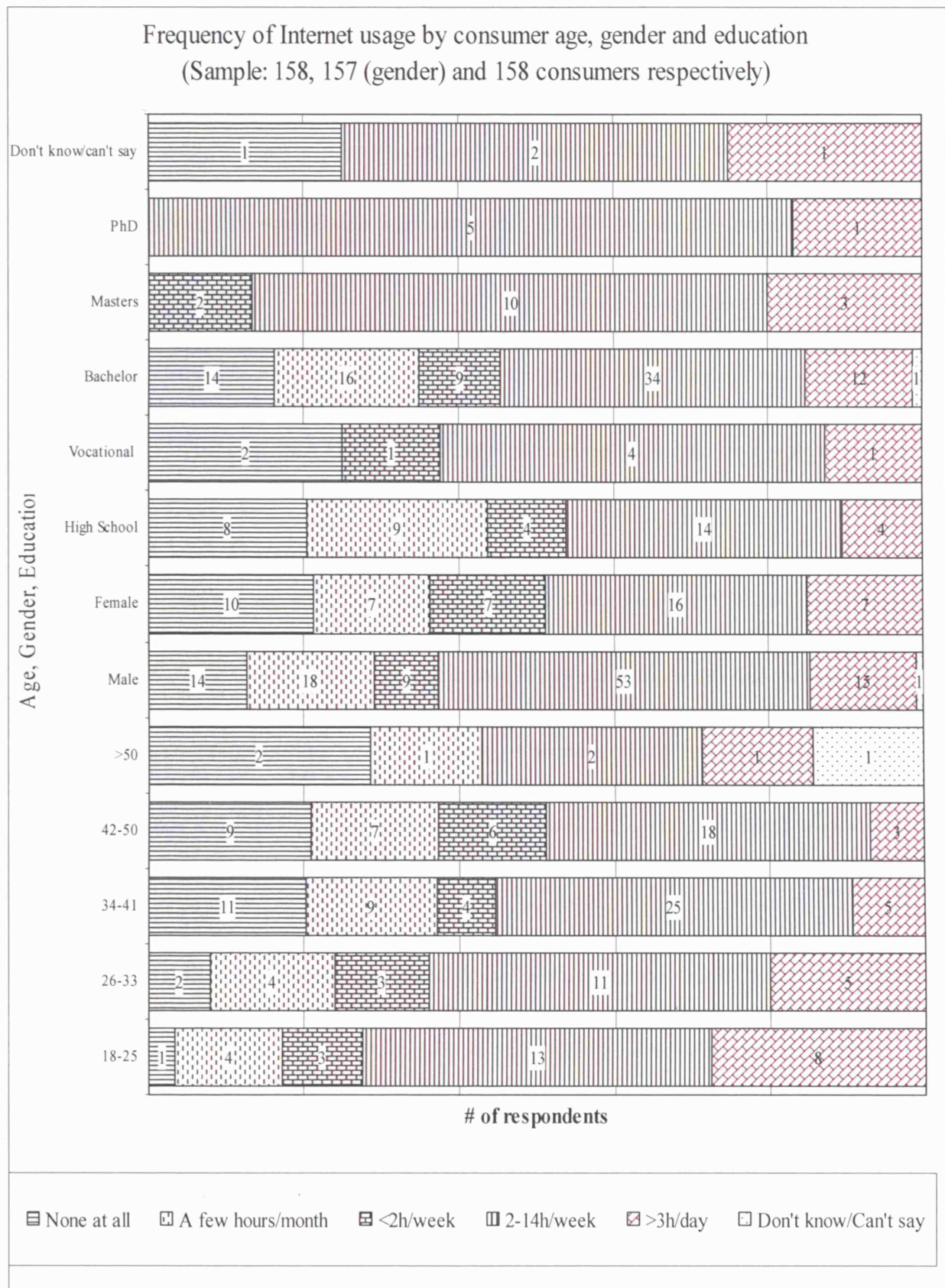
The survey showed the pattern completely moves to internet usage on a weekly basis when the sample population dealt with involves highly educated individuals, holding a master's or doctoral degree (table 5.3).

Education causes a shift of the internet usage pattern from a monthly basis to a weekly basis: Percentage of monthly basis / percentage of weekly basis				
High school	Vocational	Bachelor's	Master's	Doctoral
43% / 56%	25% / 75%	35% / 64%	0% / 100%	0% / 100%

**Table 5.3:** Educational effect on internet usage



### 5.3.2.2 The role of gender



**Figure 41:** Frequency of internet usage by consumer age, gender and education

Figure 41 also illustrates the role of gender in internet usage. A larger 21% of female (10/47) compared to the 13% (14/110) of male individuals said they do not use the internet at all. 15% (7/49) of female respondents verified only a few hours monthly of internet usage, very close to the male respondents' statistics (18/110; 16%). The situation slightly improves for the female population of the sample as we move from monthly to weekly internet usage; indeed, although only 15% (7/47) of the women admitted using the internet a couple of hours a week, 34% of them (16/47) stay online between 2 and 14 hours a week and another 15% (7/47) remain connected more than 3 hours a day.

On the other hand, male users seem to need and use the technology more. Despite a relatively low 8% (9/110) of them using the internet only a couple of hours each week, a very high 48% (53/110) are connected between 2 and 14 hours a week and another 14% (15/110) more than 3 hours a day. Only one male respondent couldn't or wouldn't answer. The above facts point towards a male domination of the internet usage.

### **5.3.2.3 The role of age**

Apparently, age plays the most important role in the frequency of internet usage (figure 41). As far as older people, aged more than 50, there seems to be a balance between those who use the internet a lot and those almost not at all. A little less than half of them reported using the internet just a few hours on a monthly basis (1/7; 14%) or not at all (2/7; 29%). Equally, they (2/7; 29%) reported being online between 2 and 14 hours a week or more than 3 hours a day (1/7; 14%). However, it should be noted that the sample population for this category of people was quite small and, thus, the results could be coincidental although the selection of the respondents was, as always, quite random.

As we move towards younger ages, findings change towards favoring internet use on a weekly basis instead of on a monthly one. In the case of individuals between 42 and 50 years of age, fewer said they did not use the technology at all (9/43; 20.9%) or just a little per month (7/43; 16%). In contrast, the majority admitted using it at least about a couple of hours a week (6/43; 14%) or a few hours a week (18/43; 42%) or a few hours a day (3/43; 7%).

The survey yielded the same results when examining the case for younger people, between 34 and 41. Internet usage for that range of ages was 11/54 (20%) who do not use it at all, 9/54 (17%) who use it just a few hours monthly, 4/54 (7%) with less than 2 hours a week, 25/54 (46%) between 2 and 14 hours weekly and 5/54 (9%) more than 3

hours daily. The only real difference in this case, critical though, was the internal shift in weekly usage from just a few hours per week to a few hours per day.

The clear shift of the pattern above becomes more apparent as we move towards younger people and eventually young adults. Individuals aged between 26 and 33 are online on a weekly basis on a sum of 76% of them (3/25; 12% a couple of hours weekly, 11/25; 44% a few hours weekly, 5/25; 20% a few hours daily). Only 16% of them are online a few hours monthly (4/25) and just 2/25 (8%) reported no usage at all. In the case of young adults the pattern shifts much more towards weekly usage, as expected and confirms the other local and international surveys. In their vast majority 83% (24/29) the young adults reported spending quite some time online on a weekly basis (partial figures are: <2 hrs weekly 3/29; 10%, 2-14 hrs weekly 13/29; 45%, >3 hrs daily 8/29; 28%). Only 4/29 (14%) said they use it a few hours monthly and just 1/29 (3%) stated not using it at all.

### **5.3.3 Frequency of internet usage by consumer occupation, background, annual family income and credit/debit card ownership**

#### **5.3.3.1 The role of credit/debit card ownership**

The main reason for asking the survey participants whether or not they hold a credit or debit card was to cross reference this piece of data with the frequency of internet usage of the respective individuals, hence, suggesting a possibility – or not – of certain persons engaging in eCommerce activity. The terms “usage on a monthly basis” and “usage on a weekly basis” are still used.

That said, the results show no noteworthy difference in the population of persons that do not hold a CR/DB card (figure 42). About half (46% or 27/59) of them either do not make use of the internet at all (14/59; 24%) or use it a little on a monthly basis (13/59; 22%). The other half (31/59; 53%) use it on a weekly basis either just for a couple of hours (7/59; 12%), or several hours weekly (20/59; 34%) or a few hours daily (4/59; 7%). One person did not respond (1/59; 2%).

Data becomes quite interesting, rather suggestive probably, when the population of persons that hold CR/DB card is looked into. The majority of those individuals (74/92; 80%) are internet users on a weekly basis (8/92; 9% a couple of hours, 48/92; 53% several hours a week, and 18/92; 20% a few hours a day). Only a small percentage 20% of them is non-internet users (8/92; 9%) or monthly users (10/92; 11%). This finding by itself might suggest that as far as ability to engage in eCommerce transactions through



the use of credit/debit cards, internet users are ready to become digital consumers, i.e. buyers of products or services on the net. The problem of eCommerce stagnation in the country should be, hence, looked elsewhere.

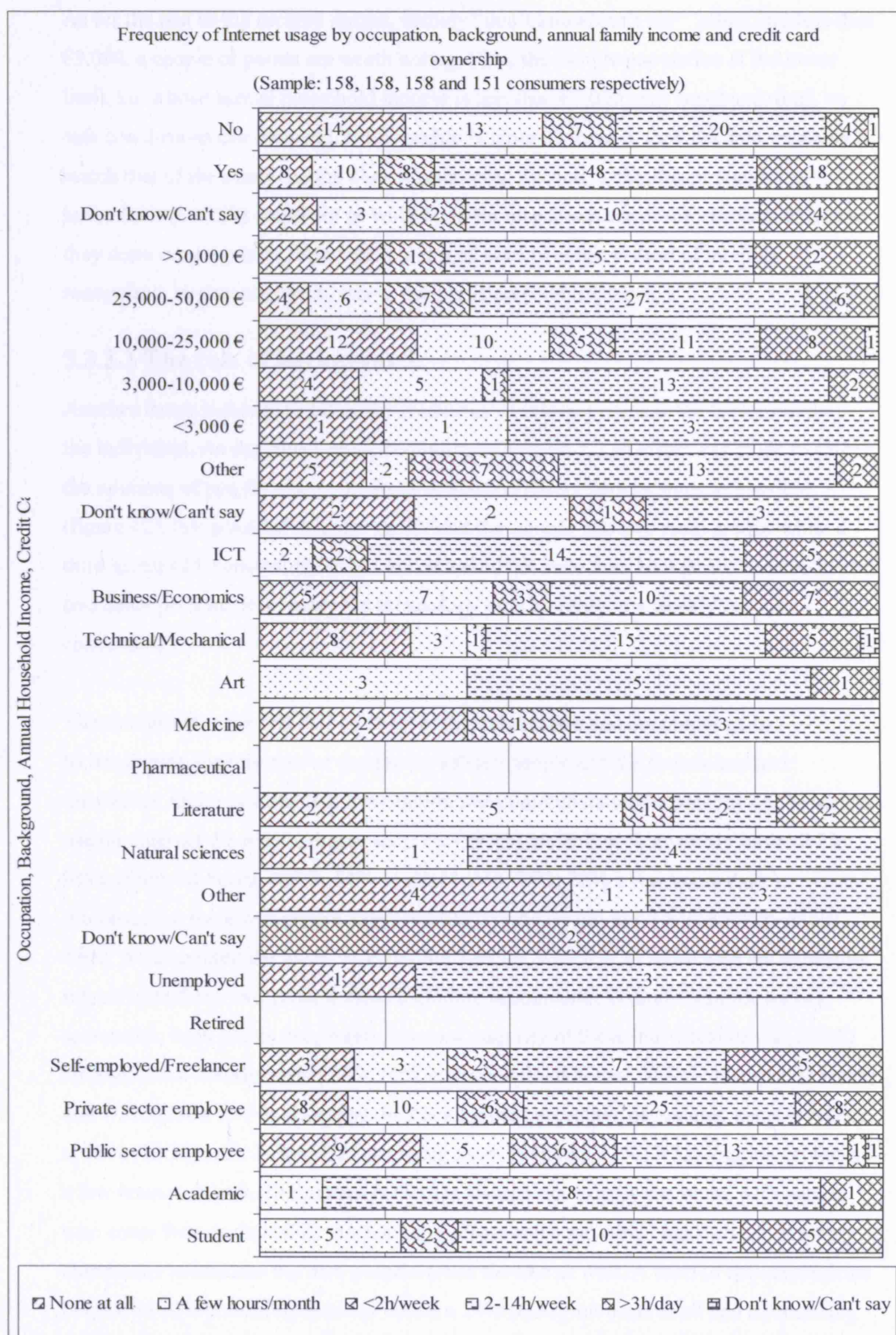
### **5.3.3.2 The role of income**

According to other surveys conducted in the country and elsewhere, the higher the annual household income, the higher the frequency of internet usage. This hypothesis was confirmed by this study as well as seen in figure 42. Households with an annual income of more than €50,000 tend to use the internet on a weekly basis at a high 80%; 1/10 of them (10%) use it a couple of hours a week, the majority 5/10 (50%) between 2 and 14 hours and 2/10 (20%) a few hours every day. On the other hand, only 20% (2/10) do not use it at all.

Things hardly change really as we move towards a slightly lower household income, namely €25,000 to €50,000. In this case, like in the previous, 20% of the people do not use the internet at all (4/50; 8%) or use it very little on a monthly basis (6/50; 12%) and, again, 80% use it on a weekly basis either a little (7/50; 14%) or a few hours a week (27/50; 54%) or more (6/50; 12%).

The situation shows some balance further down towards the average annual household income in the country. A little less than half of the families (22/47; 47%) either do not use the internet at all (12/47; 26%) or use it a little on a monthly basis (10/47; 21%). Slightly more than half of the families (24/47; 51%), either use it on a weekly basis a little (5/47; 11%) or considerably (11/47; 23%) or a few hours daily (8/47; 17%). One family member could not say.

Things are not quite clear in the range of income between €3,000 and €10,000. This is most often the annual income of a single person (not a family) but also of a poor family with one person income. We may assume, then, that families with this low income are 36% of the people in this range (9/25) who do not using the internet at all (4/25; 16%) or use it just a little on a monthly basis (5/25; 20%). We will also assume that the rest (16/25; 64%) are individuals, who stay online weekly a few hours (13/25; 52%), or a couple of hours (1/25; 4%) or a few hours daily (2/25; 8%).



**Figure 42:** Frequency of internet usage by consumer occupation, background, annual family income and credit/debit card ownership

As for the rest of the income ranges, namely “don’t know/can’t say”, other, and less than €3,000, a couple of points are worth noting. First, the sample population at the lower limit, i.e. whose annual household income is less than €3,000, was small and, thus, no safe conclusions can be made. If this reality is ignored, though, then the data seems to match that of the sample at the closest proximity. Second, a significant number of individuals (50/158) could not or would not disclose this piece of information. However, they seem once again to follow the pattern of weekly usage instead of monthly recognized, in general, by the rest of the participants in the survey.

### **5.3.3.3 The role of background**

Another factor believed to affect the frequency of internet usage is the background of the individual. As explained in the beginning of section 5.2 an effort was made to gather the opinions of people who come from as many different backgrounds as possible (figure 42). For practical reasons we divided the sample into two main groups while a third group of 8 persons that could not or would not state their background was split into two equal parts as far as using the technology on a monthly or a weekly basis is concerned.

The first group is the one that consists of the information and communication technologists, the business or economics related people and the technicians and mechanics. Quite as expected, information and communication technology (ICT) people use the internet the most. Almost all (21/23; 91%) are online on a weekly basis (2/23; 9% a couple of hours, 14/23; 61% several hours, 5/23; 22% a few hours daily). Interestingly, there was even a small 9% (2/23) who do not use the technology at all. Then, we examined the business/economics sector, which is all those who are somehow related with these two general areas including accountants, business administrators, secretaries, bank clerks, etc. Again, the vast majority of these individuals 63% (20/32) are users on a weekly basis (3/32; 10% just a couple of hours, 10/32; 31% several hours, and 7/32; 22% a few hours daily). In this case the percentage of monthly users is higher at 38% (12/32) with 16% (5/32) not being users at all and 22% (7/32) logging on for just a few hours a month. The pattern is similar, though not exactly the same, with people who come from technical or mechanical backgrounds, meaning engineers of all sorts, automobile mechanics but also plumbers and the like as well. A third of the respondents (11/33; 33%) are monthly users of which a 24% (8/33) not users at all and a remaining 9% (3/33) casual users for a few hours a month. The rest 64% (21/33) are weekly users (1/33; 3% a little every week, 15/33; 46% a few hours weekly, or 5/33; 15% a few hours daily). One person could not say.

The second group included the individuals not included in the first. These are people of the arts of any kind, those with a background in literature, the graduates of natural sciences i.e. physics, chemistry, but also medical doctors and pharmacists, and others. It must be noted up front that the sample of persons (randomly selected) in this group was rather small. Hence, only suggestions and not conclusions can be made concerning this group. First, a general shift from usage on a weekly basis to a monthly basis appears as seen in figure 42. This shift is stronger for individuals with a literacy (or language) background as 58% of them (7/12) either do not use the internet at all (2/12; 17%) or use it just a few hours a month (5/12; 42%). One person admitted using it a little per week (1/12; 8%), 2/12 (17%) mentioned a usage of a few hours per week and, again, 2/12 (17%) a few hours daily. The general picture concerning people related to the arts, medicine or natural sciences background is that about 33% (7/21) of them - 3, 2, 2 respectively in a total of 7 persons – are online on a monthly basis whereas 67% (14/21) are on a weekly basis.

#### **5.3.3.4 The role of occupation**

Finally, the type of occupation an individual has seems to affect the frequency of internet usage (figure 42). The largest group of participants was the private sector employees. The majority of them (39/57; 68%) are weekly users, some for a couple of hours a week (6/57; 11%) or even a few hours daily (8/57; 14%) but mainly several hours a week (25/57; 44%). Less than a third said they do not use the internet at all (8/57; 14%) or use it just a little on a monthly basis (10/57; 18%).

The second largest group was the public sector employees. Apparently there is a slight shift away from the weekly usage of the technology. Indeed, 57% of the respondents (20/35), less than in the previous group, are weekly users staying online for several hours a week (13/35; 37%) or just a few hours (6/35; 17%); there was just one respondent who stayed online for a few hours daily in the internet (1/35; 3%). More individuals than in the previous group admitted to not using the technology at all (9/35; 26%) or just a little monthly (5/35; 14%); overall 40% (14/35). There was one person who was unable or unwilling to say.

A third group was the self-employed and/or freelancers. The pattern looks quite similar with that of the private sector employees with the majority of the respondents 70% (14/20) being weekly users. They mainly stay online a few hours weekly (7/20; 35%) and some for just a couple of hours (2/20; 10%) but a substantial percentage (5/20; 25%) a few hours daily. On the other hand, about a third (6/20; 30%) are monthly users (3/20; 15%) or no users at all (3/20; 15%).

The pattern shifts towards the weekly basis more for the student population and even more for the academic population, quite as expected actually. None of the students admitted to not using the technology at all whereas a 23% (5/22) are rare users with a couple of hours per month. They mainly stay online a few hours a week (10/22; 46%) or a few hours daily (5/22; 23%) whilst a small percentage (2/22; 9%) use it a couple of hours a week. As for the academics, none stays away from the internet and a minor 10% (1/10) uses it a little on a monthly basis. The remaining 90% (9/10) are mostly online a few hours weekly (8/10; 80%) or a few hours daily (1/10; 10%).

A small number of 4 participants, labelled unemployed did not change the general picture and there were just 2 individuals which could not categorize themselves in respect to occupation.

### **5.3.4 The role of the internet**

#### **5.3.4.1 Examined according to consumer age, gender and education**

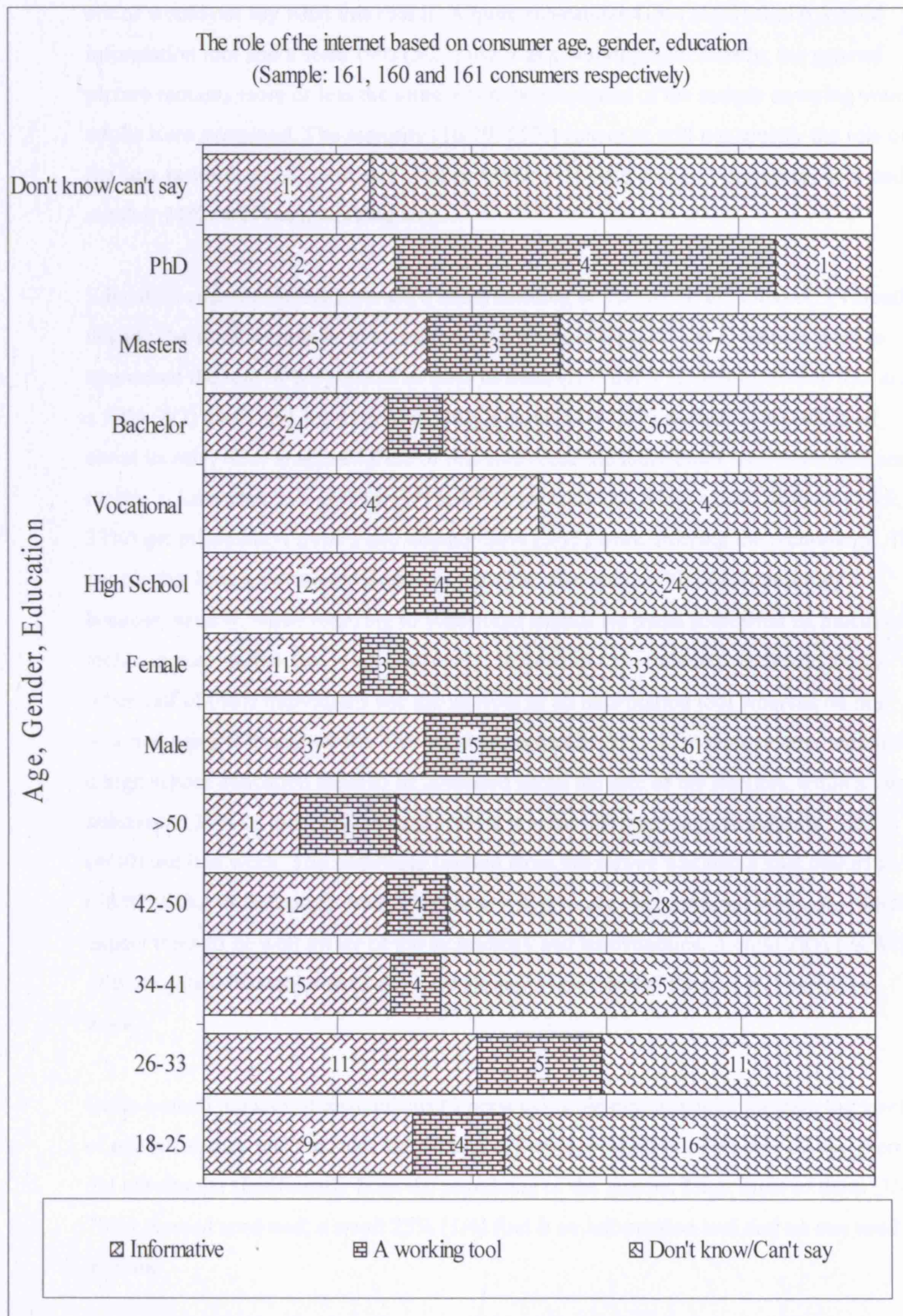
One of the most interesting findings of the study was to find a major confusion among the participants of the survey as regards the role of the internet. Figure 43 is as they say “a picture worth a thousand words”. Regardless of whether the issue is examined based on the age or gender or education of the individuals, the results are more or less the same.

In the case of gender, female respondents demonstrated a higher confusion as 70% of them (33/47) did not know or could not say if for them the internet is a tool used for the purpose of getting information or a working tool instead. 23% (11/47) uses it to get information and just a 6% (3/47) utilizes it as work tool. Male participants are less confused as a lower 54% (61/113) are unable to define the role of the internet. A solid 33% (37/113) use it as an information tool and, again, a low 13% (15/113) for work.

As far as age, things don’t differentiate much either. Despite the small sample of participants aging more than 50 the statistics are probably close to the real ones. Most of them cannot evaluate the role of the internet at all (5/7; 71%). For the rest, there is a balance between those using it as an information tool (1/7; 14%) and those using it to work (1/7; 14%). The participants aging between 42 and 50 are a little more conscious as of the role of the technology. A reduced 64% of them (28/44) couldn’t or wouldn’t answer whereas 27% (12/44) are using the internet to get information and 9% (4/44) use it as a platform to work on. Almost the same stats appear for the ages between 34 and



41. A reduced, again, 65% (35/54) are confused while 28% (15/54) find it a good information tool and another 7% (4/54) use it to work with.



**Figure 43:** The role of the internet based on consumer age, gender and education

Persons belonging to the 24 to 33 age group seem to be more conscious than any other group of people about the role of the internet. A much lower 41% of them (11/27) could not or would not say what this role is. A quite substantial 41% (11/27) find it a good information tool and a solid 19% (5/27) use it as a working tool. Finally, the general picture remains more or less the same when the responses of the sample covering young adults were examined. The majority (16/29; 55%) cannot or will not specify the role of the new technology. A good part of them (9/29; 31%) use it as an information tool and another 14% (4/29) as a working tool.

Education seems to affect a person's understanding of the role of the internet. Evidently, despite the small sample in this category, the people who hold a PhD degree seem to appreciate the role of the internet as 29% of them (2/7) use it as an information tool and a 57% (4/7) use it as a working tool. Only a small 14% (1/7) seemed to be confused about its role. Next in appreciation of this role come the individuals who have obtained a master's. Less than half of them (7/15; 47%) are confused while a third of them (5/15; 33%) get information from it and another 20% (3/15) work utilizing the technology. The people that hold a vocational degree come close after that at 50% (4/8) probably because, usually, when referring to vocational studies we mean somewhat technical or technological studies that, very frequently, involve in a way the new technology; the other half of these individuals use the internet as an information tool whereas no one reported using it to work with. The majority, 60% (24/40), of the respondents with only a high school education seem to be confused about the role of the internet, while a very substantial 30% of them (12/40) understand it as an information tool and only 10% (4/40) use it at work. The surprising finding from the survey was that a vast majority (56/87; 64%) of the people with a bachelor's degree are also confused when one would expect them to be well aware of the technology and its dynamics. A solid 28% (24/87) of them gets information from the internet and a small 8% of them (7/87) use it for work.

Quite a small number of respondents (5 persons) could not or would not state the level of education they had reached; the pattern of their appreciation of the role of the internet did not change significantly from the remaining of the groups. Thus, most of them (3/4; 75%) seemed confused; a small 25% (1/4) find it an information tool and no one used it at work.

### 5.3.4.2 Examined according to occupation, background, annual household income and credit/debit card ownership

Findings show that whether a person holds a credit/debit card and depending on his/her annual household income affects significantly how well s/he appreciates the role of the internet. The same or greater effect is noticed in individuals coming from different backgrounds and/or having different types of occupations (figure 44).

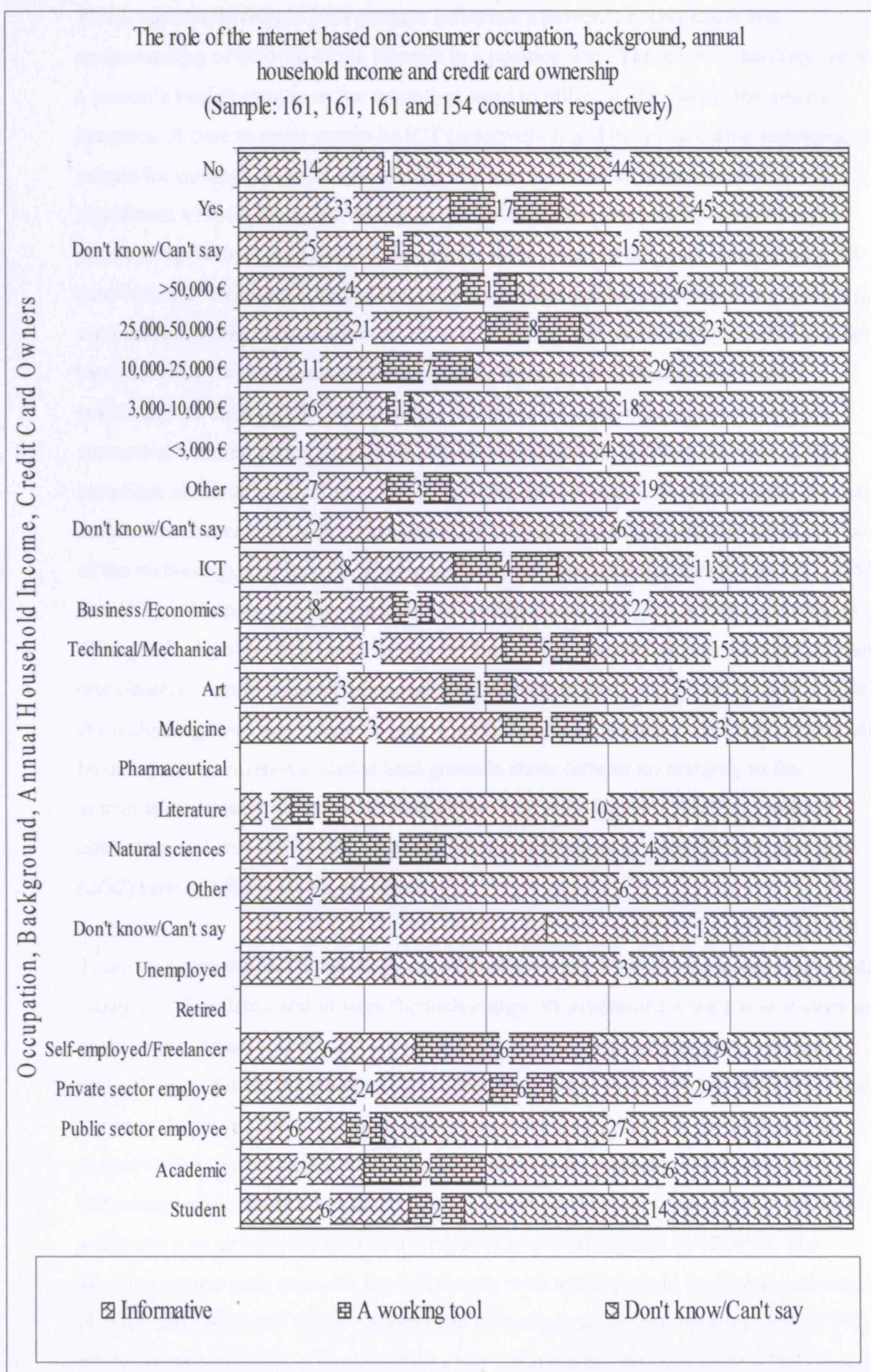
First, it looks that credit/debit card holders are less confused about the role of the technology than non-holders. Indeed, less than half (45/95; 47%) of the CR/DB card holders could not or would not say how they understand this role. A solid 35% (33/95) of them recognizes it as an information tool whilst there is another 18% (17/95) who use it at work. On the other hand, the vast majority (44/59; 75%) of people without a credit/debit card could not or would not differentiate the role of the internet, be it information or a working tool. Almost all the rest (14/59; 24%) find it an information tool and a diminutive 2% (1/59) uses it at work.

Second, as expected, annual household income plays a significant role in the appreciation of the technology. The more the income the less confused the individuals seem to be as to what to do with the technology (table 5.4).

The role of the internet based on the annual household income							
	over €50,000	€25,000 - €50,000	€10,000 – €25,000	€3,000 - €10,000	<€3,000	Other	Can't say
Informative	4/11; 36%	21/52; 40%	11/47; 23%	6/25; 24%	1/5; 20%	7/29; 24%	5/21; 24%
Working tool	1/11; 9%	8/52; 15%	7/47; 15%	1/25; 4%	0/5; 0%	3/29; 10%	1/21; 5%
Don't know	6/11; 55%	23/52; 44%	29/47; 62%	18/25; 72%	4/5; 80%	19/29; 66%	15/21; 71%

**Table 5.4:** The effect of annual household income on appreciating the role of the internet





**Figure 44:** The role of the internet based on occupation, background, annual household income and credit/debit card ownership

Third, apparently certain backgrounds influence a person's appreciation and understanding of the role of the internet in a positive way. The more technology- related a person's background is or the more they need to utilize it, the clearer the situation becomes. A case in point would be ICT (information and communication technology) people for instance. A solid 35% (8/23) of them sees it as an information tool while a significant 17% (4/23) as a working tool which is rather inexplicably low, though, considering these people use the technology quite possibly the most. Another similar case is that of individuals with a technical or mechanical background of any kind, e.g. automotive or otherwise engineers. Most of them see the technology as an information tool (15/35; 43%) and some (5/35; 14%) as a working tool. A quite significant percentage of them (15/35; 43%), taken the specified type of background strongly connected with the technology, is unable to understand it. Another example of this paradigm involves medical practitioners. Although the sample is rather small, the main conclusion that can be quite safely extracted is that these individuals are generally aware of the technology and its role. They mostly find it a proper information tool (3/7; 43%), few (1/7; 14%) consider it a working tool and less than half (3/7; 43%) are unable to distinguish. Again in this case, despite the fact that the confusion seems to be reduced, one observer would reasonably expect people of such quality to be much more aware of the technology and appreciate its role. Finally, it was a surprise to find that people with business- or economics-oriented backgrounds show little or no maturity in the appreciation of the role of the internet either. The majority 69% (22/32) could not determine and only 25% (8/32) distinguishes an information role in it with just 6% (2/32) seeing it for working purposes.

Then, there are the less technology-based backgrounds. Even though contemporary art is rather closely related and utilizes the technology, its practitioners are not as mature users as those previously mentioned. Consequently, it is no surprise that many use the technology to gather information (3/9; 33%), only a few (1/9; 11%) to work with it and the majority do not know or are unable to say what its role is (5/9; 56%). Likewise, people with a background in literature or related fields, probably much less mature technology-wise, show a weakness in understanding the technology (10/12; 83%) as just a few use it as an information tool (1/12; 8%) or a working tool (1/12; 8%). The situation remains the same for the individuals with a background in natural sciences, i.e. physics and chemistry. Some consider the technology an information tool (1/6; 17%) while others consider it a working tool (1/6; 17%) but the majority (4/6; 67%) cannot distinguish between the two roles. It remains, also, the same for those coming from other backgrounds not categorized here or for those unable or unwilling to categorize

their backgrounds; in both cases, 25% (2/8) the internet is used for information-gathering purposes but most of them (6/8; 75%) cannot distinguish any purpose.

Finally, as expected given the previous statistics, the general picture remains the same when the role of the internet is evaluated by consumers based on their occupation. The main problem of recognizing the role of the internet is evident in the public sector (once again). The vast majority of its employees (27/35; 77%) are unable to appreciate the role of the technology, a small number (6/35; 17%) see it as an information tool and just 6% of them (2/35) use it at work. Next, in recognizing the role of the internet, are the unemployed. By far most of them (3/4; 75%) are confused and a limited 25% (1/4) appreciate it as an information tool. However, these conclusions may not be safe because of the very small sample considered for the particular case.

Then, the academics, surprisingly, seem to follow the general pattern of not quite understanding the internet (6/10; 60%), whereas the rest are split between information seekers (2/10; 20%) and internet workers (2/10; 20%). Almost likewise with the students, only in their case there is a shift towards the informational use of the internet. Thus, 64% (14/22) are unable to have a say in the internet's role, 27% of them (6/22) use it to gather information and a small 9% (2/22) to work with.

The situation changes substantially when the freelancers/self-employed and the employees of the private sector are examined. A much shrunken 49% (29/59) of the private sector employees are confused but a high 41% (24/59) uses it for information gathering purposes and another 10% (6/59) for work. Things are even better for the self-employed or freelancers, as a comparatively low 43% of them (9/21) do not discern the internet's role. The rest either use it as an information tool (6/21; 29%) or as a working tool (6/21; 29%).

There is a very small part of the sample, two participants, which could not or would not put their occupation in one of the aforementioned categories. They either were ignorant of the internet's role (1/2; 50%) or information seekers (1/2; 50%). However, due to the small size of this part of the sample no safe conclusions can be drawn.

### **5.3.5 General comments**

In this section detailing consumers' preferences and attitudes towards the internet technologies the author discussed about the role of the internet in everyday life in Greece and the frequency of the use of the new technology. The main results are two. The first is that the majority of individuals (about 67%) are using the internet on a

weekly basis whereas only 33% of them use it on a monthly basis. This fact verifies the growth of the information society so far and encourages the motivation for its further development.

The second, however, reveals a general confusion among the internet users and non-user alike as to the actual role of the internet in everyday life, be it information or a working tool. The confusion is a little lessened when male respondents are examined compared to the female ones. Also, it is lessened when moving from younger ages (18-25 years) towards the older ones (up to 50). The only exception to this concerns the elderly individuals (more than 51 years of age). Education, background and financial status all play significant role in appreciating the role of the internet. The more educated a person is the less the confusion; likewise with the family income. Finally, the closer to the technology a person's background and profession is the less confused that person is as to the role of the internet.

The results of this investigation were rather significant as a background necessary to proceed with the study of the reasons behind the stagnation of eCommerce growth in the country, a subject which is to be discussed in the following sections.

## **5.4 Consumer preferences and attitudes concerning eCommerce practices**

In the same survey, an investigation of the Greek consumers' attitude towards eCommerce practices locally was carried out. The same people were asked to contribute their thoughts about their intention to use a credit/debit card for online payments, whether or not they have ever performed an online transaction, what are the products and/or services they would be willing to purchase/hire over the internet, the reasons or obstacles for not carrying out online transactions, etc. The reason for asking such questions was, as explained in an earlier chapter, to find out if there is any common ground between what consumers believe and expect from eCommerce and what business executives have in mind. This comparison will assist in drawing appropriate conclusions as to why eCommerce is still at such low levels in Greece and, possibly, suggest solutions to the problem.

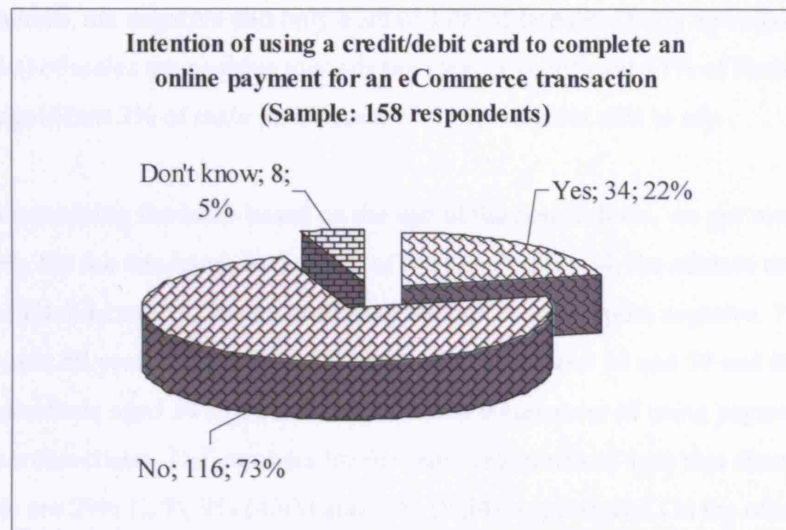
### **5.4.1 Intention of using credit/debit card for online transactions**

One of the steps of effecting an online transaction, fundamental if online payment is necessary for the transaction to be successful, is the use of a credit or debit card.

Examining this issue, the situation is crystal clear and quite negative (figure 45). Overall

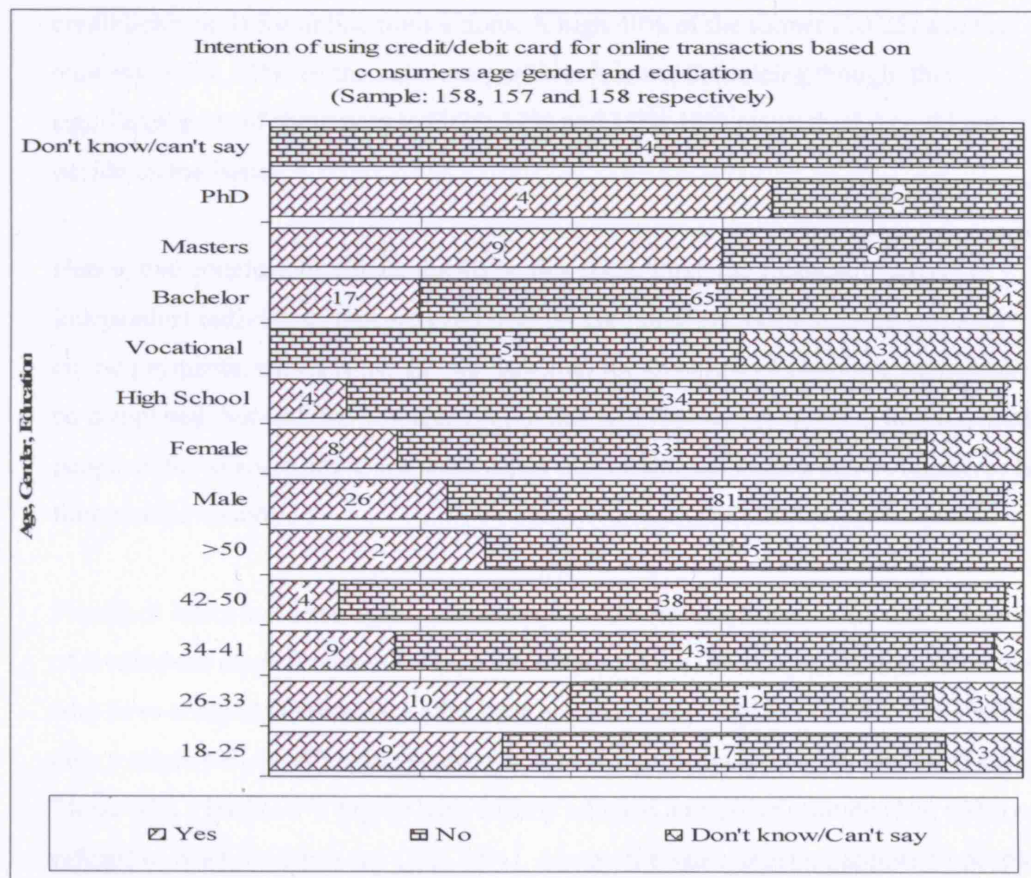


the vast majority (116/158; 73%) of the participants in the survey admitted they are against this idea. A small but significant 22% of them (34/158) responded positively to such an action and 5% (8/158) could not or would not say.



**Figure 45:** Intention of using credit/debit card for online transactions

#### 5.4.1.1 Examined according to age, gender and education



**Figure 46:** Intention of using credit/debit card for online transactions based on age, gender and education

Figure 46 illustrates the effect of age, gender and education on a consumer's intention to use plastic money for online payment during an eCommerce transaction. In terms of gender, the vast majority, that is 70% of female (33/47) and 74% of male (81/110) respondents, are negative and only a small 17% of females (8/47) and a good 24% (26/110) of males are positive towards the idea. A significant 13% of female (6/47) and an insignificant 3% of male participants (3/110) were not able to say.

When examining the issue based on the age of the respondents, we get two different pictures. On the one hand, in the case of the people over 34, the attitude towards the use of credit/debit cards during an online transaction remains quite negative. 71% (5/7) of those over 50 years of age, 88% (38/43) of those between 42 and 50 and 80% (43/54) for individuals aged 34 to 41 have no intention whatsoever of using payment cards for online transactions. The numbers for the same categories of ages that show a positive attitude are 29% (2/7), 9% (4/43) and 17% (9/54) respectively. On the other hand, for younger people things are much more optimistic and positive. Less than half of the young people between 26 and 33 years of age (12/25; 48%) and less than a quarter of young adults 18 to 25 years old (17/29; 24%) are negative towards using their credit/debit cards for online transactions. A high 40% of the former (10/25) and the majority (9/29; 31%) of the latter are positive. It is worth noticing though, that significant parts of these people (3/25; 12% and 3/29; 10% respectively) could not decide on the issue.

Hence, two conclusions can be drawn on this issue. First, the financially strong or independent individuals that are aged over 34 are rather reluctant in using cards for online payments, which is usually fundamental for an online eCommerce transaction to be completed. Second, the younger people that will replace the working and consuming people in the years to come are positive, an optimistic sign indeed that eCommerce has a future in the country.

Finally, it looks that once again, education is a determinant factor in the use or non-use of credit/debit cards for online eCommerce transactions. More specifically, individuals who have completed secondary education are absolutely negative (34/39; 87%) with only a small 10% (4/39) being positive and an insignificant 3% (1/39) unable to say. Those with a bachelor's degree have mainly adopted a negative attitude (5/8; 63%) or refused or were unable to say (3/8; 38%). Almost the same situation applies to people who have finished some kind of vocational studies. The vast majority (65/86; 76%) are

negative, a solid but small percentage (17/86; 20%) are positive and a tiny 5% (4/86) were unable to provide a clear answer.

The situation changes, as expected, with well-educated people. Respondents who obtained a postgraduate degree are very positive about the idea of using plastic money for online payments (9/15; 60%) and only less than half (6/15; 40%) are negative. Things are even better for those holding a doctorate degree. The vast majority (4/6; 67%) are willing to finish eCommerce transactions with an online payment through the use of their cards and about a third of them (2/6; 33%) are against such an action. There were, also, four individuals who were unable or unwilling to specify their education that stated they are negative towards the idea.

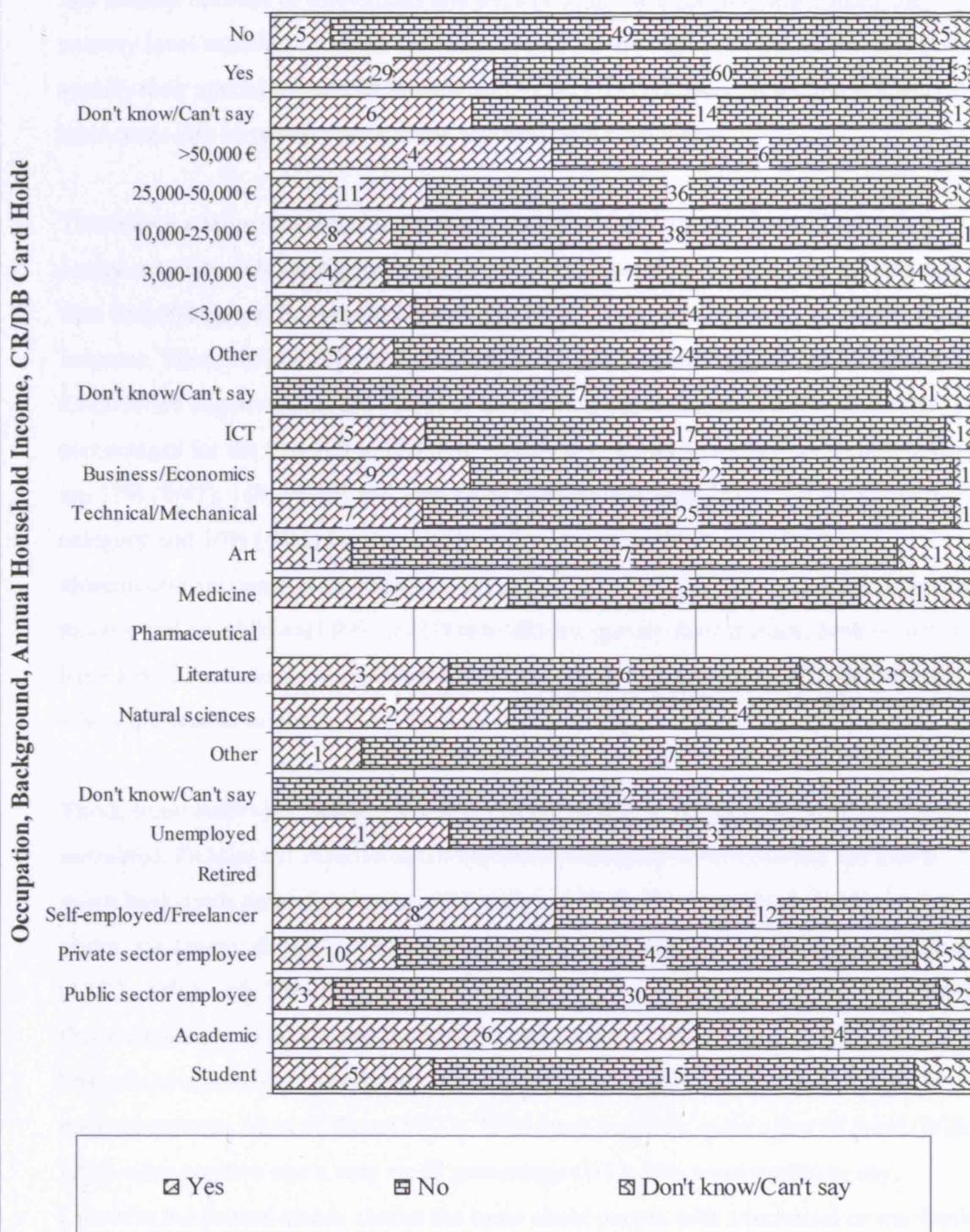
#### **5.4.1.2 Examined according to occupation, background, annual household income and credit/debit card ownership**

Figure 47 illustrates the effect of credit/debit card ownership, annual household income, background and occupation. The general picture remains the same considering these parameters/factors like it was in the previous sections when age, gender and education were examined.

First, the majority of the respondents, regardless whether they hold a bank card, are negative towards the idea of using their cards for online transactions. The only difference is that fewer people (60/92; 65%) holding such cards are negative towards the idea compared to the quite high percentage of 83% of those not holding any cards (49/59). Accordingly, a very small percentage of individuals without bank cards (5/59; 9%) and a quite significant fraction (29/92; 32%) of bank card holders do have a positive attitude on this issue. Lastly, 9% of those without bank cards (5/59) and 3% of those with bank cards (3/92) could not or would not say.



Intention of using credit/debit card for online transactions based on consumers' occupation, background, annual household income and credit/debit card ownership  
(Sample: 158, 158, 158 and 151 respectively)



**Figure 47:** Intention of using credit/debit card for online transactions based on consumer occupation, background, annual household income and credit/debit card ownership

Second, generally the same pattern applies when examining annual family income. As income increases so does the number of individuals with a positive attitude towards online payment via bank cards but it is still far smaller than the number of those with a



negative attitude. Indeed, 60% (6/10) of individuals with an annual household income of more than €50,000, 72% (36/50) of those making between €25,000 and €50,000, 81% (38/47) of families earning money in the €10,000 and €25,000 range, 68% (17/25) of low income families or individuals and 80% (4/5) of the extremely low (under the poverty level actually) incomes are negative. Add to that 83% (24/29) of those unable to specify their annual household income and 67% (14/21) of those unwilling but who in both cases also have negative attitude towards online payments.

This leaves a large 40% (4/10) of persons with a positive attitude but still falls short compared to the relative figure of the negative side mentioned previously in the more than €50,000 annual household income category. The pattern becomes worse for lower incomes. Thus, 22% (11/50) of those families whose income ranges from €25,000 to €50,000 are negative with 6% (3/50) of them being unable to say. Furthermore, the percentages for the €10,000 to €25,000, €3,000 to €10,000 and less than €3,000 ranges are 17% (8/47), 16% (4/25) and 20% (1/5) respectively, with 2% (1/47) for the first category and 16% (4/25) for the people in the second unable to say. To the aforementioned one should add another 17% (5/29) of respondents with other household income and an additional 29% (6/21) who did not specify their income, both of which have a positive mentality towards the issue examined and only 5% (1/21) of the latter who were unable to say.

Third, some surprising findings became evident when the background parameter was examined. Despite the expectation of a positive mentality towards online payments using bank cards from the people of the information and communication technology sector, the survey showed a different reality. The vast majority of them were negative (17/23; 74%), only 22% of them were positive (5/23) and there was a small 4% (1/23) that were unable to take sides. Almost the same can be said of those in the people of the business or economics (or related) sector, with just a slight improvement as to this positive attitude. Most of them (25/33; 76%) were negative, quite a few of them (9/23; 28%) were positive and a very small percentage (1/32; 3%) were unable to say.

Likewise the pattern stands almost the same about people with a technical or mechanical background of any type. They were mainly negative (25/33; 76%), a significant part were positive (7/33; 21%) and just 3% (1/33) could not say. The pattern did not change dramatically with individuals coming from the arts and art-related backgrounds. A very high 78% (7/9) had a negative attitude, a small 11% (1/9) were positive and an identical 11% (1/9) could not or would not say.

When considering the medical profession and the individuals coming from a literature-related or natural sciences (physics, chemistry, etc.) background, the picture slightly changes for the better. A considerably lower, although still the main, portion of the people from the medical profession (3/6; 50%) were negative, however, a significantly higher 33% (2/6) compared to the previous categories were positive and a small percentage (1/6; 17%) could not say. Almost the same pattern applies to those with a literature-related background, that is, 50% of them (6/12) are negative toward online payments via plastic money, 25% (3/12) are positive to the idea and 25% (3/12) unable or unwilling to say. Likewise can be said about the people coming from the natural sciences; 67% (4/6) were negative and 33% (2/6) were positive. There was also a number of people from other backgrounds that were negative at a very high 88% (7/8) and a small part of them (1/8; 13%) were positive; the same is valid with individuals unable to state their background with 88% (7/8) of them being negative and 13% (1/8) unable to decide.

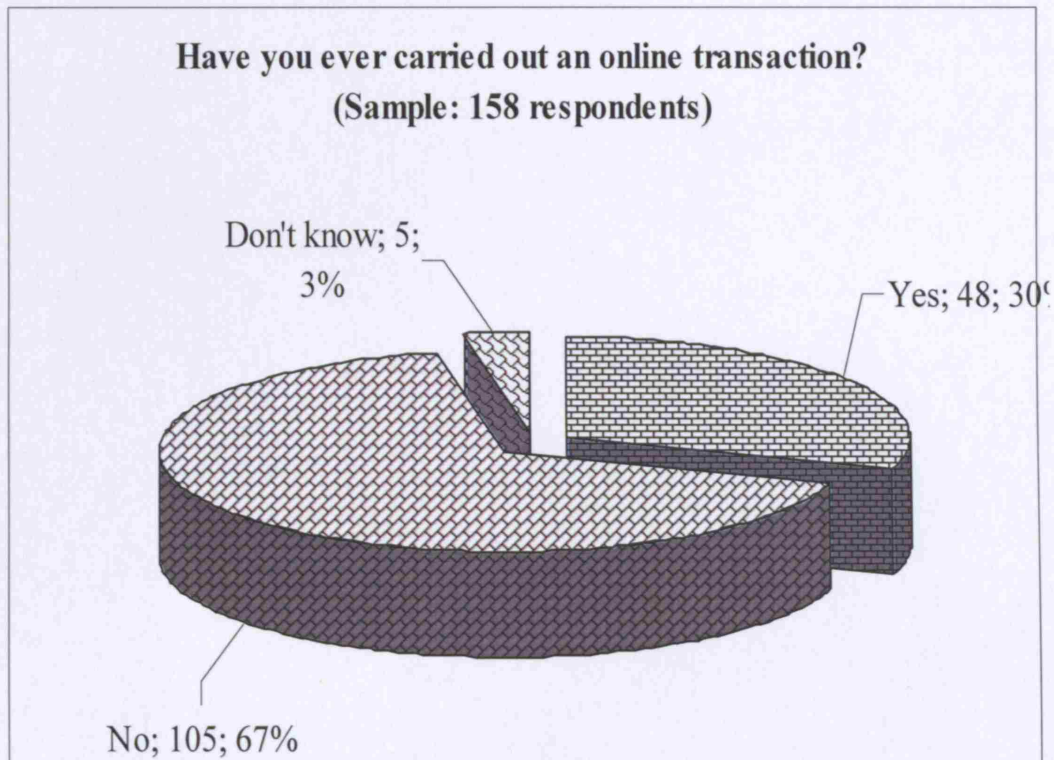
Fourth, the author looked at the issue, i.e. the intention to use plastic money for online payments, from a different angle: the consumer's occupation. With the exception of the academic community the pattern generally did not change. The vast majority of unemployed individuals (3/4; 75%), the employees of the private sector (42/57; 74%), the public sector – as expected – (30/35; 86%), the students (15/22; 68%), the self employed or the freelancers (12/20; 60%) and respondents who could not or would not say their occupation (2/2; 100%) were negative.

The rest, that is 25% (1/4) of the unemployed, 18% (10/57) of the private sector employees, 9% (3/35) of the public sector, 23% (5/22) of the students and a quite significant 40% (8/20) of the self employed or freelancers were positive. The academic people, not surprisingly, reached a 60% (6/10) positive to the idea while 40% (4/10) were negative. There were, also, 9% (5/57) of individuals working in the private sector, 6% (2/35) of those working in the public sector and 9% (2/22) of the students who were unable to say.

#### **5.4.2 Past experience on online transactions**

The survey participants were, furthermore, asked whether they had performed an online transaction in the past or not. As figure 48 points out, the large majority (105/158; 67%) said they had not, but a quite significant part of them (48/158; 30%) admitted they had. A very small percentage (5/158; 3%) could not say or would not say. It is, however, even more interesting to compare these results with the previous ones concerning the intention of using plastic money for online payments. Indeed, it seems that the number

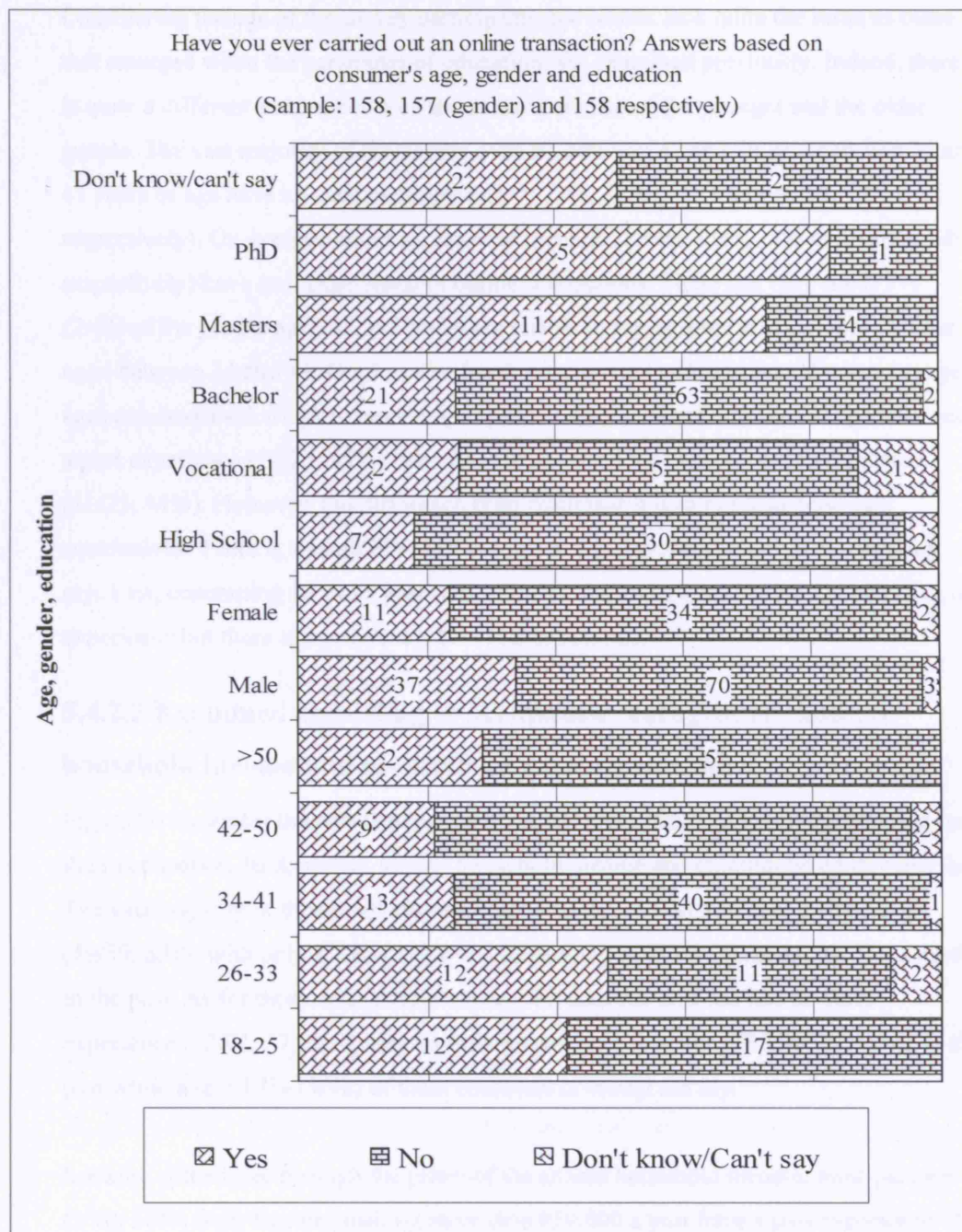
of people who have never been involved in an online transaction in the past is smaller than the number of those who do not intend to use plastic money for online payments. This might mean that a significant 6% of the participants did engage in an online transaction in the past but their experience was such that not only did they regret it but, furthermore, decided not to repeat it again in the future.



**Figure 48:** Have you ever carried out an online transaction?

#### **5.4.2.1 Examined according to age, gender and education**

Figure 49 illustrates respondents' past experience of online transactions based on their age, gender and education. Regarding education, the main conclusion is that past experience is quite different between the respondents with a PhD/Master's degree and those with a Bachelor's/Vocational/High School degree. Most of the PhD or Master's holders (5/6; 83% and 11/15; 73% respectively) have a past experience whilst a portion of them (1/6; 17% and 4/15; 27% respectively) not. On the other hand, most of the Bachelor, vocational and high school degree holders (63/86; 73%, 5/8; 63%, 30/39; 77% respectively) do not have a past experience of online transactions and only about a quarter of them (21/86; 24%, 2/8; 25%, 7/39; 18% respectively) do. Accordingly, 2.3% (2/86) of Bachelor degree, 13.5% (1/8) of vocational degree and 5% (2/39) of high school holders were unable or unwilling to answer. Finally, half of the respondents unable or unwilling to state their level of education (2/4; 50%) have a past experience of online transactions whereas the other half do not (2/4; 50%).



**Figure 49:** Have you ever carried out an online transaction? Answers based on consumer's age, gender and education

When gender is scrutinized, a similar pattern is seen with most of the female and male respondents (34/47; 72% and 70/110; 64% respectively) having no such past experience, and only a quarter of the female population of the sample (11/47; 23%) as well as a third (37/110; 34%) of the male population of the sample experiencing such transactions. A small part of both (2/47; 4% and 3/110; 3% respectively) could not or would not say.



Considering the age of the survey participants, the results look quite the same as those that emerged when the parameter of education was examined previously. Indeed, there is quite a different pattern between the past experience of the younger and the older people. The vast majority of the people over 50, between 42 and 50, and between 34 and 41 years of age have no such experience (5/7; 71%, 32/43; 74% and 40/54; 74% respectively). On average about a quarter of them (2/7; 29%, 9/43; 21% and 13/54; 24% respectively) have past experience of online transactions. There is a very small 5% (2/43) of the people aged 42 to 50 who are unable to say as there is 2% (1/54) of those aged between 34 and 41. On the other hand, numbers are rather balanced when younger ages are examined. Slightly more respondents between 26 and 33 years of age have such a past experience (12/25; 48%) than those of the same age with no such experience (11/25; 44%). However, the difference is so small that it is difficult to draw safe conclusions. There is a small 8% (2/25) at this age group that could not or would not say. Last, concerning 18 to 25 year olds, most of the young adults (17/29; 59%) have no experience but there is a promising 41% (12/29) that do.

#### **5.4.2.2 Examined according to occupation, background, annual household income and credit/debit card ownership**

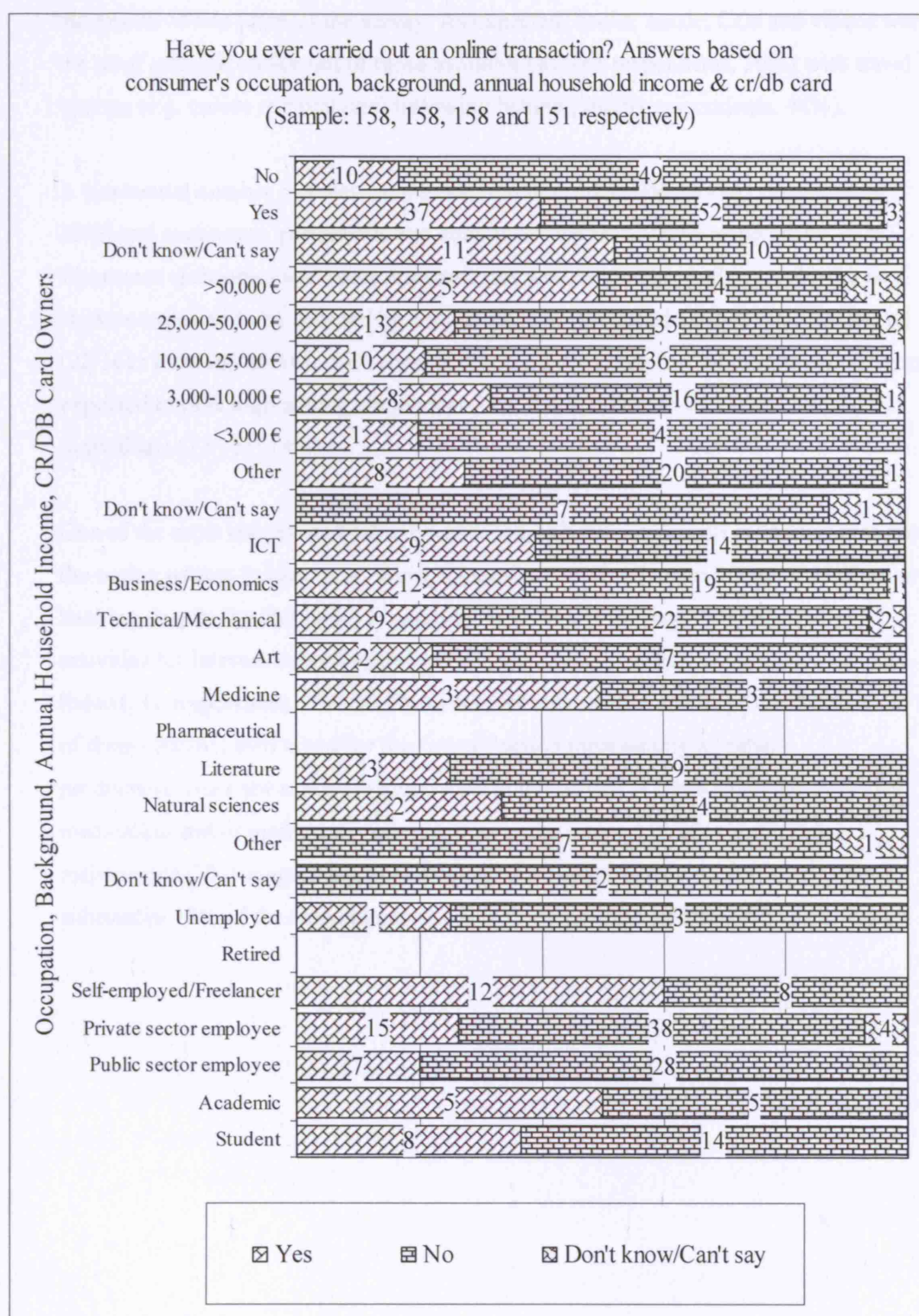
Figure 50 illustrates the past experience of online transactions of respondents based on their occupation, background, annual household income and credit/debit card ownership. The vast majority of those without any kind of bank card have no such experience (49/59; 83%) with only 17% of those (10/59) having carried out something of the kind in the past. As for those with plastic money, the majority still has had no such experience (52/92; 57%) but a very significant percentage of them (37/92; 40%) has in the past while a small 3% (3/92) of them could not or would not say.

Looking at the issue through the prism of the annual household income, most persons (5/10; 50%) from families making more than €50,000 a year have a past experience of online transaction, 40% of those (4/10) not and a small 10% (1/10) could not say. This is the only slight change to the pattern. As for the rest of the sample, the vast majority of families with an income between €25,000 and €50,000, or €10,000 and €25,000, or €3,000 and €10,000, or less than €3,000 or other kind of income reported not having such a past experience (35/50; 70%, 36/47; 77%, 16/25; 64%, and 4/5; 80%, 20/29; 69% respectively). On average about a quarter of these families (13/50; 26%, 10/47; 21%, 8/25; 32%, 1/5; 20%, 8/29; 28% respectively) have effected online transaction in the past. A small part of the individuals from the same categories of families (2/50; 4%, 1/47; 2%, 1/25; 4%, 0/5; 0%, 1/29; 3% respectively) could not or would not say. There

was a part of the sample that wouldn't categorize themselves with respect to their family income, who mainly admitted having such an experience (11/21; 52%) while a large part of them not (10/21; 48). However, the difference is so small that it lies probably within the margin of statistical error.

The same issue was examined with the background parameter in mind. With the exception of the medical profession where a balance is seen between those who had the experience in the past (3/6; 50%) and those who did not (3/6; 50%), for the remainder present a pattern that stays more or less the same. Thus, the majority of those with a background in information and communication technology (14/23; 61%), those with some type of business and economics relation (19/32; 60%), the technical professionals (22/33; 67%), the people from the various types of arts (7/9; 78%), the individuals with a background in language and literature (9/12; 75%), those from the natural sciences (4/6; 67%) and any other background not explicitly mentioned (7/8; 88%) responded having not had a past online transaction experience. On the other hand, the corresponding numbers for the people with the same backgrounds with such past experience were significantly lower i.e. 39% (9/23) for ICT, 38% (12/32) for business and economics with a small 3% (1/32) of them unable to say, 27% (9/33) for technical professions with a 6% (2/33) of them indecisive, 22% (2/9) for the arts, 25% (3/12) for language and literature, 33% (2/6) for natural sciences and 0% (0/8) for any other background with a very significant 13% of them unable to decide. There were again a number of respondents unwilling or unable to reveal their background of whom 88% (7/8) were without such an experience and 13% (1/8) unable to say.

Finally, the issue of whether the respondents got involved in an online transaction in the past was examined from the point of view of their occupation. The only note worth making is related to the respondents who were self-employed/freelancers and those of the academia. The majority of the former (12/20; 60%) did have such a past experience whereas 40% of them did not. As to the latter, half of them (5/10; 50%) did and the other half did not. For the remaining occupations the pattern described in the previous sections is the same. Most of the unemployed (3/4; 75%), the private sector employees (38/57; 67%), the public sector employees (28/35; 80%), the students (14/22; 64%) and all those unable or unwilling to specify the kind of occupation (2/2; 100%) did not have such an experience in the past. On average, about a quarter of them i.e. 25% (1/4) of the unemployed, 26% (15/57) from private sector, 20% (7/35) from the public sector, and 36% (8/22) of the students did have the experience. There were 7% of the individuals coming from the private sector that would not or could not say.



**Figure 50:** Have you ever carried out an online transaction? Answer based on consumer's occupation, background, annual household income and CR/DB card ownership

### 5.4.3 Consumer preferences on products/services/activities most willingly purchased/hired/engaged in while online

The survey participants were also asked to vote on those products, services or activities they would be willing to purchase, hire or engage in while online. Figure 51 illustrates

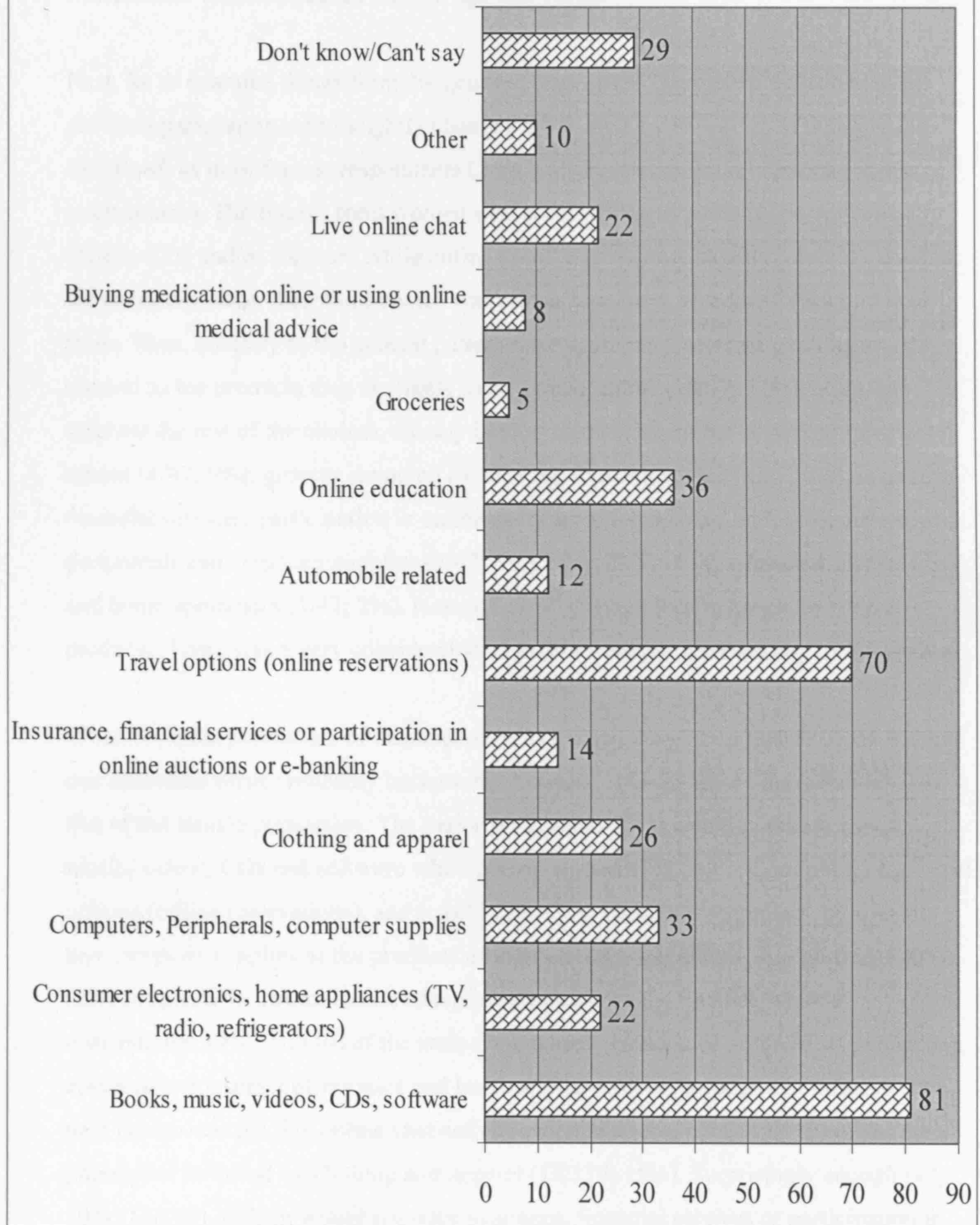


the results of this focus of the survey. As expected, books, music, CDs and videos were the most selected choice out of those available (81/161 respondents, 50%) with travel options (e.g. online reservations) following behind (70/161 respondents, 44%).

A substantial number of votes were given to online education (36/161 respondents, 22%) and computers, peripherals and computer supplies (33/161 respondents, 21%). Consumer electronics and home appliances as well as clothing and apparel were two choices expected to be selected by a good number of respondents but were not in fact (22/161; 14% and 26/161; 16% respectively). Likewise the live online chat option was expected to rank high among respondents' choices but instead was voted only by 22 individuals (22/161; 14%).

One of the most interesting findings was to see only 9% of the votes (14/161) going to the option related to insurance, financial services or participation in online auctions or e-banking despite the fact that it is assumed to be one of the most favourite online activities for internet users worldwide. The rest of the choices were sparsely selected. Indeed, 12 respondents (12/161; 8%) voted for automobile related products/services, 10 of them (10/161; 6%) voted for the "other" option representing all other products/services not explicitly mentioned in the survey. A quite small 5% voted for medication and/or medical advice sought over the internet (8/161) and just 5 respondents (3%) suggested groceries as their favourite option. Lastly, there were a substantial 18% of the respondents unwilling – or possibly unable - to say (29 votes).

**Consumer preferences on product/services/activities most  
willingly purchased/hired/engaged in while online  
(Sample: 161 respondents)**



**Figure 51:** Consumer preferences on products/services/activities most willingly purchased/hired/engaged in while online

### **5.4.3.1 Examined according to age and gender**

Figure 52 provides an analysis of the products, services or activities the respondents/consumers of the survey would be most likely to purchase, hire or engage in while online examined based on their age and gender.

First, let us examine things from the gender perspective. The pattern described in the previous paragraphs seems slightly changed when the female portion of the sample is examined, as most female respondents (26/47; 55%) selected travel options (online reservations). The figures from women who were willing to purchase books, music, videos, CDs and/or software while online (24/47; 51%) were slightly lower. Following the general pattern, their third choice was online education, voted by 28% (13/47) of them. Then, contrary to the general pattern once again, they selected clothing and apparel as the products they are likely to buy while online (10/47; 21%). Very few selected the rest of the choices, namely buying medication online or seeking medical advice (4/47; 9%), grocery shopping (4/47; 9%), live online chat (3/47; 6%), insurance-financial services, participation in online auctions or e-banking (3/47; 6%), computers, peripherals and computer supplies (3/47; 6%), other (3/47; 6%), consumer electronics and home appliances (1/47; 2%). None (0/47; 0%) mentioned automobile-related products. There was a very considerable 17% (8/47) unable to select any of the choices.

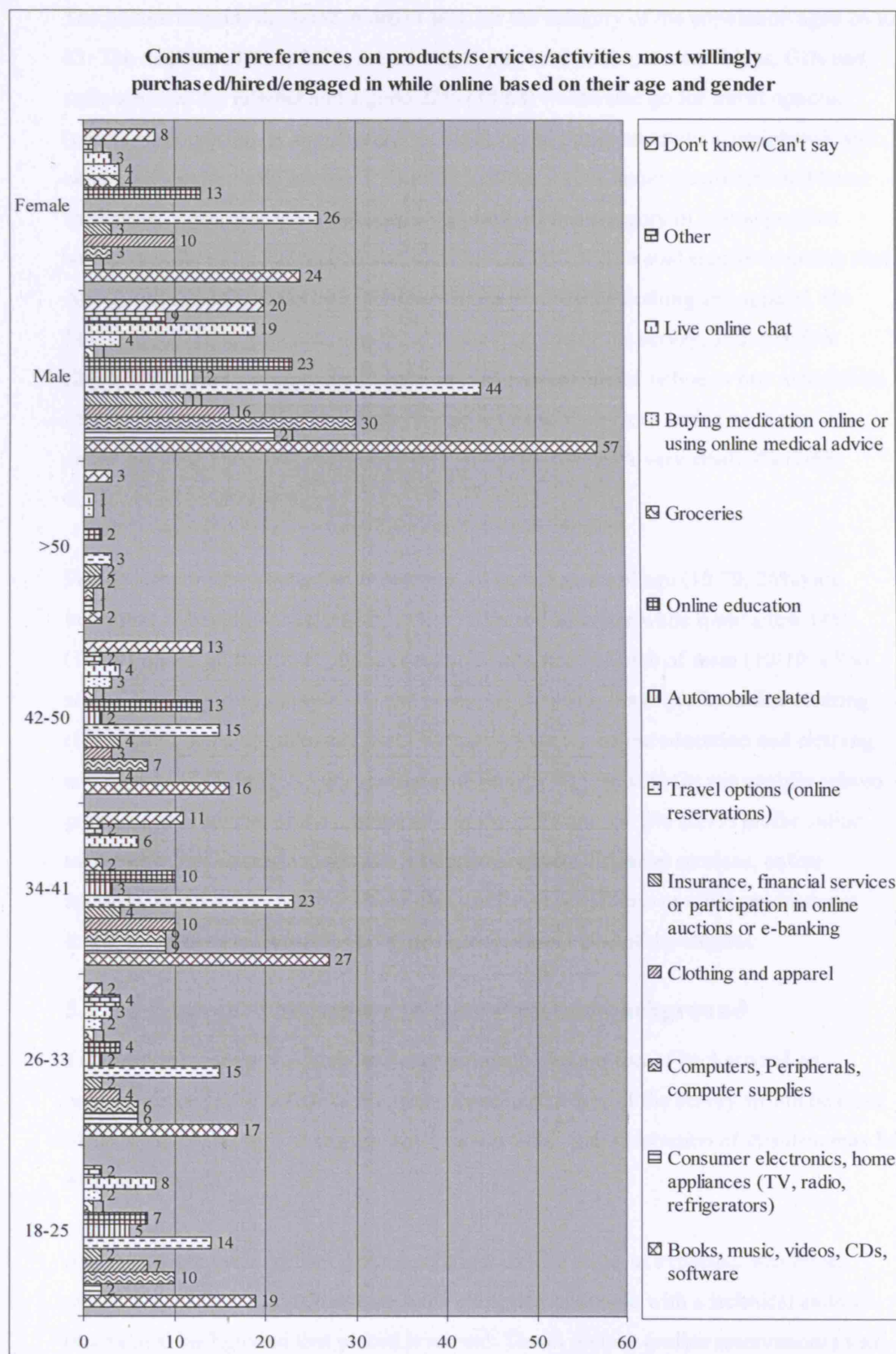
When the male population of respondents is examined the pattern reverts to the general one described earlier probably because their sample is larger (more than double) than that of the female population. The majority (57/110; 52%) would purchase books, music, videos, CDs and software while online, a good 40% (44/110) would go for travel options (online reservations), and a solid 27% (30/110) select computers, peripherals and computer supplies as the products of their choice while online. A significant 20% (23/110) prefer to hire an online education service over the internet, while a considerable 19% (21/110) of the male respondents would have no problem purchasing computers, consumer electronics and home appliances over through eCommerce. The next choice was the live online chat activity which attracted 17% (19/110) of the male population followed by clothing and apparel (16/110; 15%). Surprisingly enough only 10% (11/110) of them would consider insurance, financial services or participation in online auctions or e-banking and just 10% (12/110) would think of purchasing automobile related products. Very few would buy medication or use any medical advice offered online (4/110; 4%), while some prefer other products, services or activities not in the list of choices (9/110; 8%) and a negligent 1% (1/110) would be interested in

buying groceries or similar products. There was 18% (20/110) of the male participants of the survey that would not or could not say.

Last, the issue was looked from the point of view of participants' age. For the over 50 age category two facts are worth noting. One, the sample was quite small and, hence, only suggestions can be made as to respondents' preferences in this category. Two, there was only one choice distinguished from the others (3/18; 17% for travel options, that is, online reservations) with all other options sparsely selected as figure 52 illustrates. The majority (17%) could not or would not respond at all to this question.

In the 42 to age 50 category, the general pattern applies only to a smaller extend. Most of these individuals (16/87; 18%) selected the books, music, videos, CDs and software choice as expected; a significant part of them (15/87; 17%) picked travel options (online reservations) followed by 15% (13/87) in favour of online education. A considerable 8% (7/87; 8%) would be willing to purchase computers, peripherals and computer supplies over the net. All other available choices were seldom selected. It must be noted, however, that the aforementioned numbers are quite small compared to those expected and 15% (13/87) of the participants who were unable or unwilling to decide was quite surprising assuming these individuals are not that far from using the technology.

The pattern for the category involving 34 to 41 year olds comes even closer to the overall one. Books, music, videos, CDs and software are the products of choice for online transactions for 23% (27/116) of the relevant population, followed by travel options (online reservations) selected by 20% (23/116) of the same people. A significant portion (10/116; 9%), though much smaller in size, votes for online education or for clothing and apparel (10/116; 9%). Fewer (9/116; 8%) would go for computers, peripherals and computer supplies and an equal number would go for consumer electronics and home appliances. Much to our surprise, only 5% (6/116) engage in live online chat and a very small 3% (4/116) take part in online auctions or consider insurance products, financial services or ebanking for online purchases. The rest of the options, namely online medication or online medical advice (0%), grocery shopping (2/116; 2%), automobile-related products (3/116; 3%) or other products, or services or activities (2/116; 2%) covered a quite small or negligent part of the "pie". A rather significant number of individuals (11/116; 10%) did not respond at all.



**Figure 52:** Consumer preferences on products/services/activities most willingly purchased/hired/engaged in while online based on their age and gender

The picture remains the same, more or less, for the category of the population aged 26 to 33. The majority (17/68; 25%) are willing to purchase books, music, videos, CDs and software over the internet and a good 22% (15/68) would also go for travel options (online reservations). A significant 9% (6/68) would prefer computers, peripherals and computer supplies with another 9% (6/68) looking for consumer electronics and home appliances. Surprisingly enough, only 6% (4/68) of this category of young persons would look for online education and even fewer (3/68; 4%) would engage in online chat. Another 6% (4/68) would have no reservations purchasing clothing and apparel, 6% (4/68) picked other products non-listed in the question of the survey, and very few (2/68; 3%) would purchase medication or hire medical advice online or buy automobile related products or prefer insurance products, financial services online auctions or ebanking. Just 2% (1/68) would buy their groceries online. A very small 3% (2/68) could not or would not say.

Finally, most of the young adults between 18 and 25 years of age (19/79; 24%) are interested in buying books, music, videos, CDs and software while quite a few 18% (14/79) would go for travel options (online reservations). Some of them (10/79; 13%) search for computers, peripherals and computer supplies, fewer prefer online chatting (8/79; 10%) and a considerable part (7/79; 9%) look for online education and clothing and apparel (7/79; 9%). A very small population (5/79; 6%) vote for automobile related products with the rest of the options almost insignificant, i.e. 3% (2/79) prefer online medication, online medical advice, insurance products, financial services, online auctions, ebanking, consumer electronics and home appliances or other products not listed in the survey. Only 1% (1/79) had groceries as a one of the choices.

#### **5.4.3.2 Examined according to education and background**

Table 5.5 provides a cross-tabulation comparison of the effect of background on products, services or activities the respondents/consumers of the survey would be most likely to purchase, hire or engage while online (analytical illustration of this data may be seen in figure 53).

Apparently the most preferred choice (figures in blue font), as expected, was books, music, video, CDs and software with the exception of people with a technical and/or mechanical background that picked it second. Travel options (online reservations) was selected as the second most preferred choice (figures in green font) by the individuals from all but two backgrounds except technicians and mechanics of all sorts and medical professionals who had it first in their list of preferences. Two are the candidates for the third place in the list (figures in yellow font), namely clothing and apparel and



computers, peripherals and computer supplies. Groceries were a seldom (almost not at all) selected choice (figures in red font) while online medication and online medical advice was the second least selected option (figures in brown font).

	ICT	Business/ Economics	Technical/ Mechanical	Art	Medicine	Literature	Natural Sciences	Other	Don't know/ Can't say
Don't know/ can't say	3/23; 13%	4/32; 13%	9/33; 27%	0/9; 0%	1/6; 17%	3/12; 25%	1/6; 17%	7/29; 24%	1/8; 13%
Other	1/23; 4%	1/32; 3%	4/33; 12%	0/9; 0%	0/6; 0%	1/12; 8%	0/6; 0%	2/29; 7%	1/8; 13%
Live online chat	5/23; 22%	3/32; 9%	5/33; 15%	0/9; 0%	2/6; 33%	2/12; 17%	1/6; 17%	4/29; 14%	0/8; 0%
Online medication, online medical advice	1/23; 4%	1/32; 3%	2/33; 6%	0/9; 0%	0/6; 0%	0/12; 0%	0/6; 0%	3/29; 10%	1/8; 13%
Groceries	0/23; 0%	1/32; 3%	0/33; 0%	0/9; 0%	0/6; 0%	1/12; 8%	0/6; 0%	3/29; 10%	0/8; 0%
Online education	6/23; 26%	3/32; 9%	5/33; 15%	5/9; 56%	1/6; 17%	3/12; 25%	1/6; 17%	9/29; 31%	3/8; 38%
Automobile related	3/23; 13%	1/32; 3%	6/33; 18%	1/9; 11%	0/6; 0%	0/12; 0%	0/6; 0%	1/29; 8%	0/8; 0%
Travel options (online reservations)	9/23; 39%	16/32; 50%	14/33; 42%	5/9; 56%	2/6; 33%	5/12; 42%	3/6; 50%	12/29; 41%	3/8; 38%
Insurance, financial services, Online- auctions, ebanking	3/23; 13%	3/32; 9%	3/33; 9%	0/9; 0%	0/6; 0%	1/12; 8%	0/6; 0%	3/29; 10%	1/8; 13%
Clothing and apparel	4/23; 17%	9/32; 28%	3/33; 9%	2/9; 22%	1/6; 17%	1/12; 8%	1/6; 17%	5/29; 17%	0/8; 0%
Computers, peripherals and computer supplies	8/23; 35%	5/32; 16%	10/33; 30%	0/9; 0%	1/6; 17%	0/12; 0%	4/6; 67%	4/29; 14%	1/8; 13%
Consumer electronics and home appliances	4/23; 17%	4/32; 13%	7/33; 21%	1/9; 11%	0/6; 0%	0/12; 0%	2/6; 34%	3/29; 10%	1/8; 13%
Books, music, videos, CDs, software	14/23; 60%	17/32; 53%	12/33; 36%	7/9; 78%	2/6; 33%	6/12; 50%	4/6; 67%	14/29; 48%	5/8; 63%

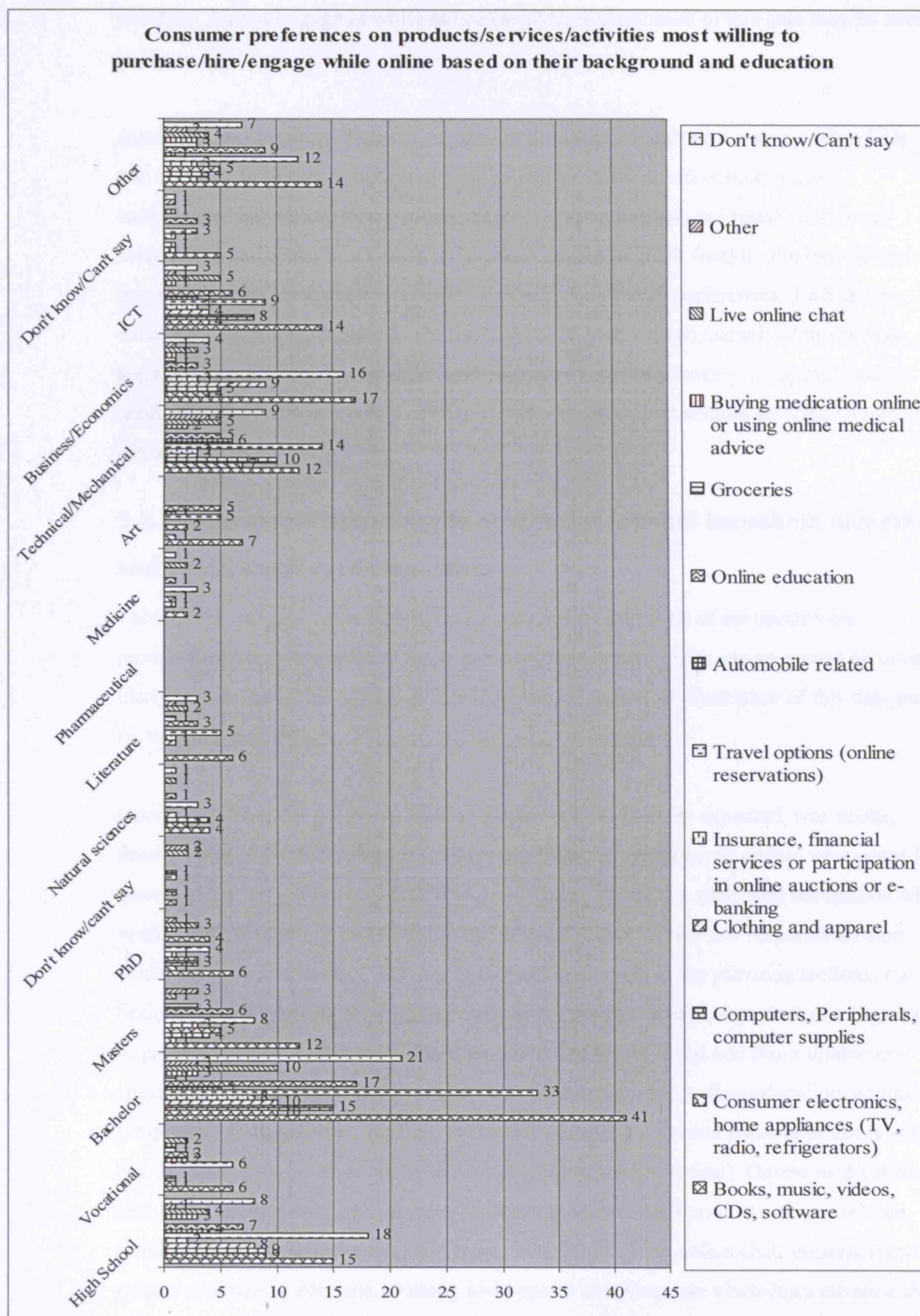
**Table 5.5:** The effect of background on consumer preferences on products, services, activities



Quite surprisingly, live online chat was not among the first choices not even amongst the information and communication technologists and neither were online auctions or ebanking, two trendy online activities for those using the internet.

	High School	Vocational	Bachelor's	Master's	PhD	Don't know/ Can't say
Don't know/ can't say	8/39; 215%	0/8; 0%	21/86; 24%	0/15; 0%	0/6; 0%	0/4; 0%
Other	1/39; 3%	0/8; 0%	3/86; 4%	3/15; 20%	1/6; 17%	2/4; 50%
Live online chat	4/39; 10%	2/8; 25%	10/86; 12%	1/15; 7%	3/6; 50%	2/4; 50%
Online drugs, online medical advice	3/39; 8%	1/8; 13%	3/86; 4%	0/15; 0%	1/6; 17%	0/4; 0%
Groceries	0/39; 0%	1/8; 13%	1/86; 1%	3/15; 20%	0/6; 0%	0/4; 0%
Online education	7/39; 18%	2/8; 25%	17/86; 20%	6/15; 40%	4/6; 67%	0/4; 0%
Automobile related	4/39; 10%	2/8; 25%	5/86; 6%	0/15; 0%	0/6; 0%	1/4; 25%
Travel options (online reservations)	18/39; 46%	6/8; 75%	33/86; 38%	8/15; 53%	4/6; 67%	1/4; 25%
Insurance, financial services, e-auctions, ebanking	2/39; 5%	0/8; 0%	8/86; 9%	3/15; 20%	1/6; 17%	0/4; 0%
Clothing and apparel	8/39; 21%	0/8; 0%	10/86; 12%	5/15; 33%	3/6; 50%	0/4; 0%
Computers, peripherals & computer supplies	9/39; 23%	1/8; 13%	15/86; 17%	4/15; 27%	3/6; 50%	1/4; 25%
Consumer electronics and home appliances	9/39; 23%	1/8; 13%	10/86; 12%	1/15; 7%	1/6; 17%	0/4; 0%
Books, music, videos, CDs, software	15/39; 39%	6/8; 75%	41/86; 48%	12/15; 80%	6/6; 100%	1/4; 25%

**Table 5.6:** The effect of education on consumer preferences concerning products, services, activities



**Figure 53:** Consumer preferences on products/services/activities most willingly purchased/hired/engaged in while online based on their education and background

Table 5.6 provides a cross-tabulation comparison of the effect of education on products, services or activities the respondents/consumers of the survey would be most likely to

purchase, hire or engage in while online (analytical illustration of this data may be seen in figure 53).

Again, the most preferred choice (figures in blue font), was books, music, video, CDs and software with the exception of people with a technical and/or mechanical background that picked travel options first. Travel options (online reservations) was selected as the second most preferred choice (figures in green font) by the individuals from all but two backgrounds who had it first in their list of preferences. Two are the candidates for the third place in the list (figures in yellow font), namely clothing and apparel and computers, peripherals and computer supplies. Grocery shopping, online medication and online medical advice were the choices most seldom selected (figures in red and brown font).

#### **5.4.3.3 Examined according to occupation, annual household income and credit/debit card ownership**

Table 5.7 provides a cross-tabulation comparison of the effect of occupation on products, services or activities the respondents/consumers of the survey would be most likely to purchase, hire or engage in while online (analytical illustration of this data may be seen in figure 54).

Once again the most preferred choice (figures in blue font), as expected, was books, music, video, CDs and software with the exception of unemployed people who voted for travel options and those very few who could not or would not state their occupation who voted for travel options and clothing and apparel. There were a few respondents who could not or would not say. Staying in the pattern formed in the previous sections, travel options (online reservations) was selected as the second most preferred choice (figures in green font) by the all the respondents except the unemployed and those unable to specify their occupation who placed it first. Live online chat, online education, computer peripherals and computer supplies, and consumer electronics and home appliances are the candidates for the third place in the list (figures in yellow font). Online medication and online medical advice, groceries, and automobile related products were a seldom (almost not at all) selected choice (figures in red font). Live online chat, insurance and related products or services, clothing and apparel and consumer electronics etc are either second to last or last choice of the respondents (figures in brown font).



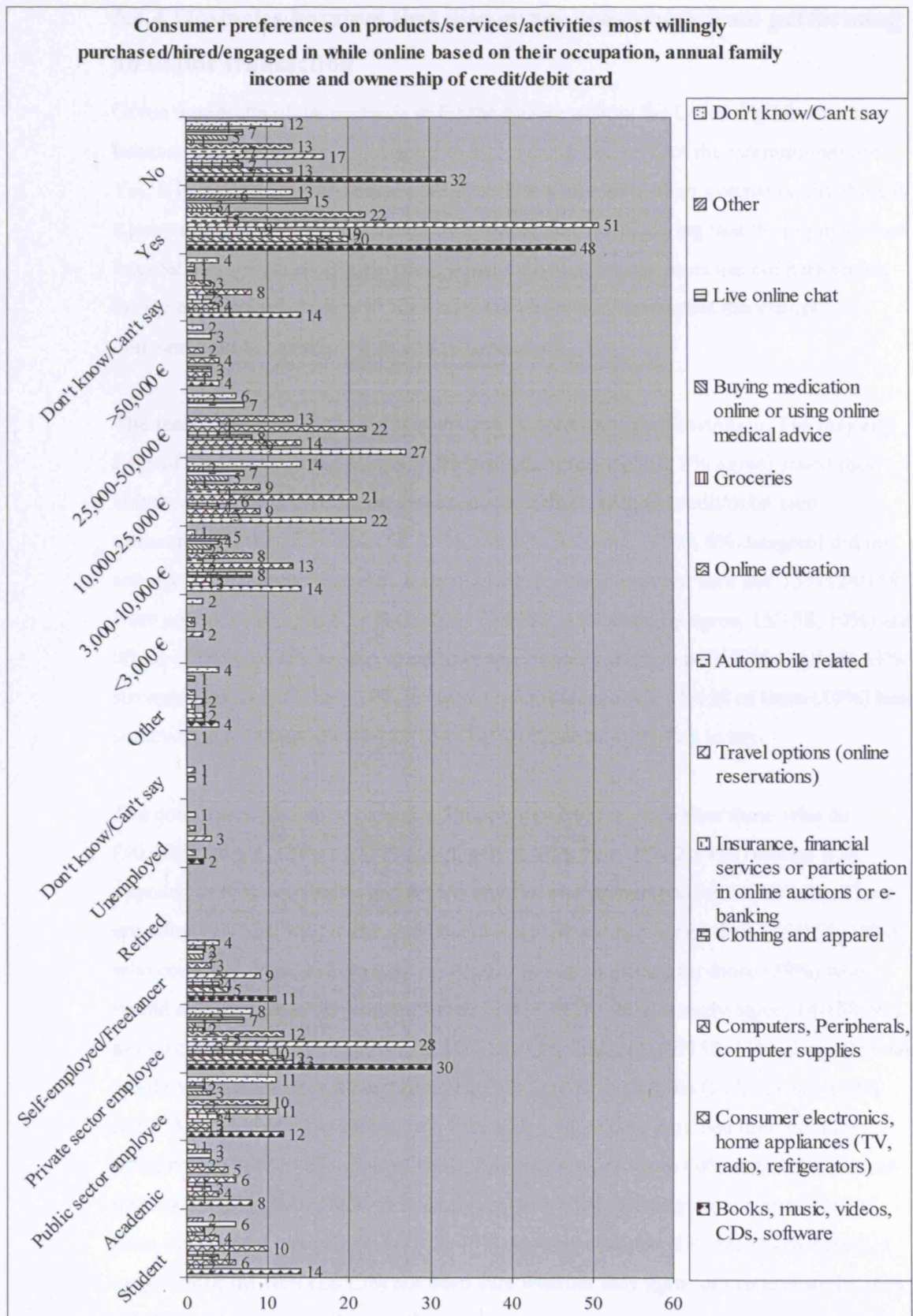
	Other	Don't know	Unemployed	Self-employed/	Private Sector employees	Public Sector employees	Academic	Student
Don't know/ can't say	4/8; 50%	1/2; 50%	0/4; 0%	4/20; 20%	8/57; 14%	11/35; 31%	1/10; 10%	0/22; 0%
Other	0/8; 0%	0; 0%	0/4; 0%	1/20; 5%	3/57; 5%	1/35; 3%	3/10; 30%	2/22; 9%
Live online chat	1/8; 13%	0; 0%	1/4; 25%	2/20; 10%	7/57; 12%	2/35; 6%	3/10; 30%	6/22; 27%
Online medication, online medical advice	0/8; 0%	0; 0%	0/4; 0%	2/20; 10%	1/57; 2%	3/35; 9%	0/10; 0%	2/22; 9%
Groceries	0/8; 0%	0; 0%	0/4; 0%	0/20; 0%	2/57; 4%	0/35; 0%	2/10; 20%	1/22; 5%
Online education	1/8; 13%	0; 0%	1/4; 3%	3/20; 15%	12/57; 21%	10/35; 29%	5/10; 50%	4/22; 18%
Automobile related	1/8; 13%	0; 0%	0/4; 0%	0/20; 0%	5/57; 9%	2/35; 6%	0/10; 0%	4/22; 18%
Travel options (online reservations)	2/8; 25%	1/2; 50%	3/4; 75%	9/20; 45%	28/57; 49%	11/35; 31%	6/10; 60%	10/22; 46%
Insurance, financial services, e-auctions, ebanking	1/8; 13%	0; 0%	0/4; 0%	3/20; 15%	3/57; 5%	4/35; 11%	1/10; 10%	2/22; 9%
Clothing and apparel	1/8; 13%	1/2; 50%	0/4; 0%	4/20; 20%	10/57; 18%	3/35; 9%	3/10; 30%	4/22; 18%
Computers, peripherals and computer supplies	2/8; 25%	0; 0%	1/4; 25%	5/20; 25%	12/57; 21%	3/35; 9%	4/10; 40%	6/22; 27%
Consumer electronics and home appliances	1/8; 13%	0; 0%	0/4; 0%	2/20; 10%	13/57; 23%	3/35; 9%	1/10; 10%	2/22; 9%
Books, music, videos, CDs, software	4/8; 50%	0; 0%	2/4; 50%	11/20; 55%	30/57; 53%	12/35; 34%	8/10; 80%	14/22; 64%

**Table 5.7:** The effect of occupation on consumer preferences concerning products, services, activities

	€ <3,000	€ 3,000-10,000	€ 10,000-25,000	€ 25,000-50,000	€ >50,000	Don't know/ Can't say
Don't know/ can't say	2/5; 40%	1/25; 4%	14/47; 30%	6/50; 12%	2/10; 20%	4/21; 19%
Other	0/5; 0%	5/25; 20%	2/47; 4%	2/50; 4%	0/10; 0%	1/21; 5%
Live online chat	0/5; 0%	4/25; 16%	7/47; 15%	7/50; 14%	3/10; 30%	1/21; 5%
Online medication, online medical advice	0/5; 0%	3/25; 12%	5/47; 11%	0/50; 0%	0/10; 0%	0/21; 0%
Groceries	1/5; 20%	2/25; 8%	1/47; 2%	0/50; 0%	0/10; 0%	1/21; 5%
Online education	1/5; 20%	8/25; 32%	9/47; 19%	13/50; 26%	2/10; 20%	3/21; 14%
Automobile related	0/5; 0%	2/25; 8%	4/47; 9%	4/50; 8%	0/10; 0%	2/21; 10%
Travel options (online reservations)	2/5; 40%	13/25; 52%	21/47; 45%	22/50; 44%	4/10; 40%	8/21; 38%
Insurance, financial services, e-auctions, ebanking	0/5; 0%	2/25; 8%	6/47; 13%	4/50; 8%	0/10; 0%	2/21; 10%
Clothing and apparel	0/5; 0%	8/25; 32%	4/47; 9%	8/50; 16%	3/10; 30%	3/21; 14%
Computers, peripherals and computer supplies	0/5; 0%	3/25; 12%	9/47; 19%	14/50; 28%	3/10; 30%	4/21; 19%
Consumer electronics and home appliances	0/5; 0%	3/25; 12%	5/47; 11%	9/50; 18%	1/10; 10%	4/21; 19%
Books, music, videos, CDs, software	0/5; 0%	14/25; 56%	22/47; 47%	27/50; 54%	4/10; 40%	14/21; 67%

**Table 5.8:** The effect of annual household income on consumer preferences concerning products, services, activities

Table 5.8 illustrates that the pattern of consumer preferences concerning products, services and/or activities remains the same when annual household income is the focus of the study.



**Figure 54:** Consumer preferences on products/services/activities most willingly purchased/hired/engaged in while online based on their occupation, annual household income and credit/debit card ownership



#### **5.4.4 Obstacles/barriers that discourage consumers from performing an online transaction**

Given the results of the research so far the picture of how the Greek digital consumer behaves while online does not seem to differ dramatically from the international one. Yet, it is a fact that eCommerce in Greece is at a standstill when internationally there is a proven growth. This is even more interesting when considering that the population of internet users is constantly growing. Apparently the internet users are not performing online transactions. Figure 55 illustrates the obstacles/barriers that discourage consumers from performing an online transaction.

The reason for this abstinence is quite clear according to the illustration. The majority 54% of the respondents (72/158; 46% strongly agree, 13/158; 8% agree) stated they simply do not trust their internet connection to disclose their credit/debit card transaction. Only a fifth (24/158; 15%, strongly disagree, 9/158; 6% disagree) did not see any problem with that idea, a small (16/158; 10%) were not sure and 15% (24/158) were unable to say. Slightly fewer 53% (68/158; 43% strongly agree, 15/158; 10%) are afraid of using plastic money to perform an online transaction with 23% (21/158; 13% strongly disagree, 15/158; 10% disagree) not minding at all, 15/158 of them (10%) been somewhere in the middle and 24/158 (15%) unable or unwilling to say.

The consumers who do not enjoy e-Shopping (42%) are more than those who do (30.4%). Indeed, 32% (51/158) completely dislike it or 10% (16/158) dislike it as opposed to 17% who enjoy it (26/158) or 14% who probably enjoy it (22/158). There are a few (14/158; 9%) in the middle and a significant number of them (29/158; 18%) who could not or would not answer. Almost the same picture for those (39%) who would not buy things they cannot touch first (48/158; 30% strongly agree, 14/158; 9% agree) compared to a 30% (30/158; 19% strongly disagree, 17/158; 11% disagree) who would not mind, 17% with an opinion somewhere in the middle (27/158) and a 14% (22/158) unable or unwilling to say. Likewise respondents provided their opinion whether they feel comfortable of the online shopping process. 40% stated they do not feel comfortable (46/158; 29% strongly agree, 17/158; 11% agree) whereas 27% of them did not find a problem (28/158; 18% strongly disagree, 14/158; 9% disagree), a very significant 18% (28/158) not been sure whether they agree or disagree and a 16% (25/158) not answering the question.

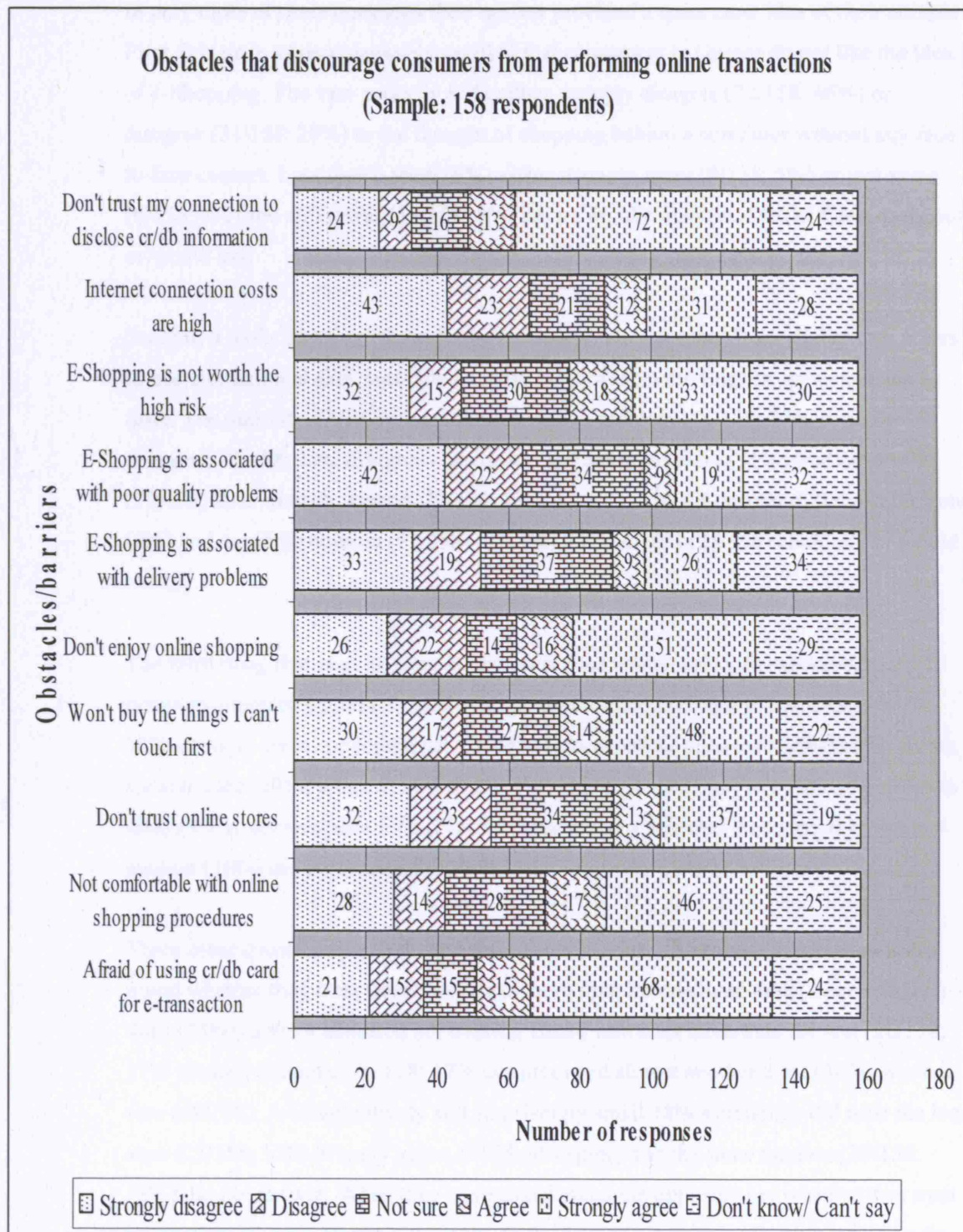
There is a balance between those respondents who believe e-shopping is not worth the high risk (33/158; 21% strongly agree, 18/158; 11% agree) and those who disagree



(32/158; 20% strongly disagree, 15/158; 10%) while there was an equal number of those who were not sure which side to take been somewhere in the middle (30/158; 19%) and those not answering the question (30/158; 19%). Figures are almost quite as balanced when responses of whether consumers trust online stores are examined. About a third of them (37/158; 23% strongly agree, 13/158; 8% agree) do not trust online stores but another third (32/158; 20% strongly disagree, 23/158; 15% disagree) do trust them and there is third who are either not sure (34/158; 22%) or could not or would not say (19/158; 12%).

Concerning the issue of whether e-Shopping is associated with delivery problems, consumers mainly do not agree. The majority 33% (33/158; 21% strongly disagree, 19/158; 12% disagree) do not see the delivery of products bought online as a problem causing them to be away from online transactions. Almost a quarter of them (37/158; 23%) are in the middle and almost another quarter of the respondents (26/158; 17%, 9/158; 6%) did associate e-Shopping with delivery problems. About a fifth of them (34/158; 22%) could not or did not want to say. Also, consumers do not associate e-Shopping with poor quality products or services. 41% of the respondents refused the idea (42/158; 27% strongly disagree, 22/158; 14% disagree), 22% were not sure whether they agree or disagree (34/158) and even fewer (19/158; 12% strongly agree, 9/158; 6% agree) generally agreed. There were a 20% of them not willing or not able to say.

Finally, as to whether the internet connection costs are high and cause a problem for online transactions, respondents mostly (42%) disagreed. The majority did not see such a problem (43/158; 27% strongly disagree, 23/158; 15% disagree) and considerably less (27%) either completely agreed (31/158; 20%) or just agreed (12/158; 8%). A small but significant 13% had a middle opinion (21/158) and another 18% (28/158) would not or could not say.



**Figure 55:** Obstacles/barriers that discourage consumers from performing an online transaction

#### 5.4.5 Consumer attitude towards eCommerce practices

The participants of the survey were asked a number of general questions aiming to reveal their attitude towards eCommerce practices (figure 56).

In only three of these questions their answer provided a quite clear idea of their attitude. First, it is once again completely verified that consumers in Greece do not like the idea of e-Shopping. The vast majority 65% either strongly disagree (72/158; 46%) or disagree (31/158; 20%) to the thought of shopping behind a computer without any face-to-face contact. Less than a tenth (9%) either strongly agree (8/158; 5%) or just agree (6/158; 4%) and still fewer (13/158; 8%) have a middle opinion. 18% of them could not or would say.

Second, it looks that English language is not a problem for the Greek digital consumers to use international sites probably because most of them are English speakers even a little. The majority 43.7% refused there is such a problem (48/158; 30% strongly disagree, 21/158; 13% disagree) whereas about a third of them (34%) said otherwise (32/158; 20% strongly agreed, 21/158; 13% agreed). A small portion of the respondents (7%) had a middle opinion (11/158) and a significant 16% (25/158) could not or would not say.

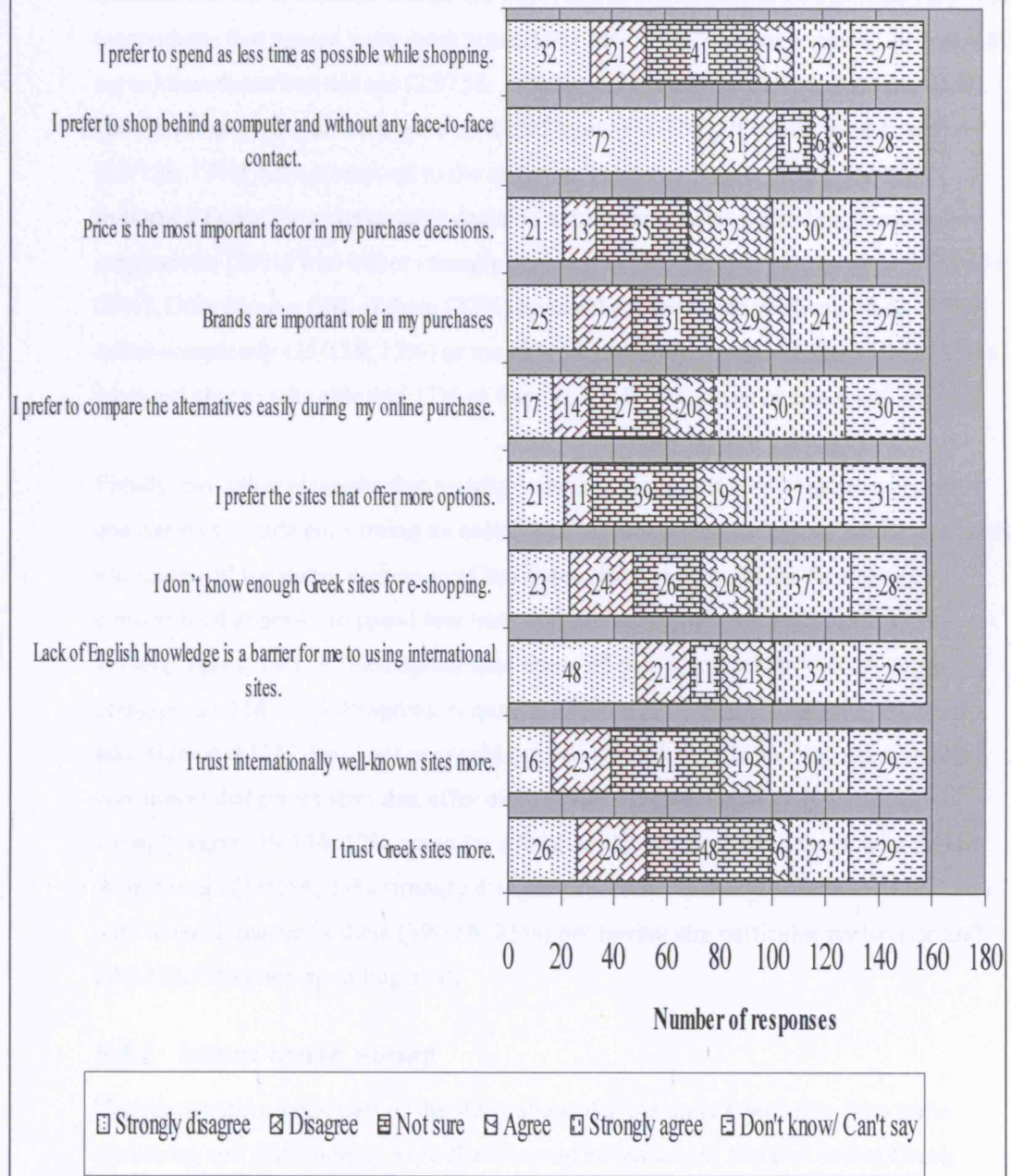
The third thing that is quite clear is that most consumers (44%), as expected, prefer to compare alternative products easily during their online purchase either a lot (50/158; 32% strongly agree) or somewhat (20/158; 13% agree) as opposed to those who do not seem to care (20%) either at all (17/158; 11% strongly disagree) or a little (14/158; 9% disagree). A considerable 17% (27/158) were not sure whether they agreed or not and another (19%) did not respond (30/158).

Three other questions yielded quite unexpected results. The survey participants were asked whether they trust Greek web sites more than international ones. Interestingly a third (33%) of them admitted not trusting Greek web sites more than the rest (26/158; 17% strongly disagree, 26/158; 17% disagree) and almost another third (30%) was not sure (48/158). A comparatively and surprisingly small 18% stated they did trust the local sites (23/158; 15% strongly agree, 6/158; 4% agree) and the same number (29/158; 18%) did not answer. When they were asked about the opposite, i.e. whether they trust internationally well-known sites more, their answers were more clear but, again, quite surprising. Most of them (31%) said they trusted those sites more (30/158; 19% strongly agree, 19/158; 12% agree) whereas just less than a quarter (25%) claimed the opposite (16/158; 10% strongly disagree, 23/158; 15% disagree).



### Consumer attitude towards eCommerce practices

(Sample: 158 respondents)



**Figure 56:** Consumer attitude towards eCommerce practices

Slightly more than a quarter of the respondents were not sure of the answer (41/158; 26%) and 18% of them (29/158) did not respond at all. The third quite interesting element of this part of the survey was that most of the participants (36%) reported not knowing enough Greek sites for e-Shopping (37/158; 23% strongly agree, 20/158; 13%

agree) with fewer (30%) refusing that (23/158; 15% strongly disagree, 24/158; 15% disagree). 17% of them were not sure (26/158) and 18% did not say (28/158).

Brand name and price tag are often two very important factors leading to eCommerce transactions. As to whether brands are important in online purchases opinions vary. The respondents that agreed were more numerous (24/158; 15% strongly agree, 29/158; 18% agree) than those that did not (25/158; 16% strongly disagree, 22/158; 14% disagree). Just less than a quarter were quite confused to say (31/158; 20%) and even fewer (27/158; 17%) did not respond to the question. Price tag is quite clearly the most important factor for a consumer's decision to purchase online according to most respondents (39%) who either strongly agreed (30/158; 19%) or simply agreed (32/158; 20%). Only about a fifth of them (22%) ignore the price tag of products while online either completely (21/158; 13%) or mostly (13/158; 8%). Another fifth (35/158; 22%) were not able to take side and 17% of them (27/158) would not or could not respond.

Finally, two other elements that usually influence in a positive or negative way the consumers towards performing an online transaction are the amount of time spend while shopping and the options given to eCommerce sites' visitors. In the first case the consumers that prefer to spend less time while shopping are fewer (22/158; 14% strongly agree, 15/158; 10% agree) than those who do not (32/158; 20% strongly disagree, 21/158; 13% disagree). A quarter of them (41/158; 26%) would not clearly take sides and 17% could not or would not answer (27/158). In the second case, the consumers that prefer sites that offer more options are the majority (37/158; 23% strongly agree, 19/158; 12% agree for a total of 35%) compared to those who do not seem to care (21/158; 13% strongly disagree, 11/158; 7% disagree for a total of 20%) with about a quarter of them (39/158; 25%) not having any particular preference and 20% (31/158) not responding at all.

#### **5.4.6 Issues worth noting**

The results this second part of the study showed some quite interesting facts quite disturbing and discouraging as to the future of eCommerce. The first is that Greek consumers do not trust plastic money which is essential part of every electronic transaction, regardless if it is a credit or a debit card. To make things even worse, even some of those who used plastic money for such types of transactions in the past regret this and are, now, quite reluctant in doing the same thing in the future.

Second, the preferences of the digital consumers in Greece as of the types of products and/or services most willing to purchase or hire while online does not differ much from

those in other more developed digital countries. Music, books, CDs, videos and travel options are preferred the most, whereas drugs, medical advice, grocery and the like are preferred the least.

Third, the reasons behind local digital consumers' abstinence from online transactions must be noted. They are not quite comfortable with the process of making a transaction and prefer instead to touch and feel the products they intend to buy. Third, and much to our surprise, they tend to trust well-known international brands and firms rather than the relevant Greek ones. Finally, they do not seem quite at ease with the English language most often used in the web sites they visit which is one more reason they are avoiding any type of eCommerce transaction.

# Chapter 6: Evaluation & Conclusions

## 6.1 Introduction

The overall population of internet users worldwide has almost doubled since 2003 from 600 millions (Global-Reach, 2003; Nielsen/Netratings, 2002; Ecoworld, 2002) to just over 1,100 millions in 2007 (Internet World Stats, 2007). As predicted back in 2002 by the Computer Industry Almanac (source: [www.c-i-a.com](http://www.c-i-a.com), March 21, 2002) the largest part of this population resides in Asia (35.8%), a region with a growth in internet penetration during the last 4 years at a rate of 248.8%. The second larger population body is found in Europe (28.3%) with a growth during the same time of about 199.5%. The relative population growth in North America (U.S.A. and Canada) was 115.7% reaching 233 million people which represents 20.9% of the global internet penetration (Internet World Stats, 2007). This reality confirms the prediction back 8 years ago that we are “moving toward a non-US-centric” internet Era (Cohen, 1999).

Following the growth of internet diffusion around the world, eCommerce (and eBusiness) is experiencing a steady 10% growth ([www.bbc.co.uk](http://www.bbc.co.uk)) both in the U.S.A. and in the U.K. and a very substantial growth in the rest of the developed countries worldwide. As seen in the previous chapters it is probably going to reach the milestone of 10% of all sales worldwide from around 8.5% by the end of 2006. This growth is overwhelmingly in favour of eBusiness (transactions between businesses) rather than eCommerce (business to customers).

In this global environment the Greek information society is growing in size but not in quality and sophistication as well. Clearly there are a number of problems to be solved before the Greek digital economy moves to the next step which is the real eCommerce/eBusiness growth. As explained in this study three are the main pillars of the eCommerce/eBusiness structure, namely the businesses, the digital consumers and the government. As the study has proved there are problems with all three of them.

## 6.2 Business practices and attitudes towards eCommerce

Initially, the attributes and activities of the managers, the marketing executives and the technology experts and the way these materialize in their eCommerce solutions were examined. The rationale behind this qualitative study based on a structured interview of



a selected number of highly ranked business executives was multifold seeking to answer the following research questions:

- what is the role of eCommerce and the rationale behind the engagement of businesses in it according to the business executives,
- how do local executives evaluate the possible incentives, on the one hand, and obstacles, on the other, that support or block the decision to engage in eCommerce,
- what is the size of the investment made – in human, financial and other resources – and its scope,
- what are the expected returns on such investments and the projected time allowed for these expectations to materialize,
- how would the eCommerce solutions (web sites) of the organizations studied evaluate from the a technical point of view, and
- what do executives project and, perhaps plan, regarding their business for the near future in relation to eCommerce.

The first conclusion that came up of this study was that executives during the interviews showed enough and in a few cases overwhelming knowledge about eCommerce and understanding of its role in the future of business activities. They clearly and completely agree with Porter's recommendation to "form and follow an eCommerce strategy first before engaging in eCommerce" and his claim that eCommerce is a one-way ticket to staying competitive in any industry. In the Greek context they agree with the projection that sooner or later all companies will have an online presence but disagree with the 5 years projection (already inaccurate actually). Most of them disagree with any negative attitudes towards eCommerce' value depreciating it to just a tool like others unless it is used in a "dirty" way. They also disagree with those that see no benefit from engagement in eCommerce.

Second, as to why executives should have their companies engage in eCommerce they see "the opportunity to expand and grow" as the main reason behind such a decision followed closely by "the need to keep up with the existing competition" and the fact that "customers demanding to deal on the internet". Other less significant drivers that could lead to such a decision are the "need to increase the business status", "the recent industry changes and trends", "the threat of new competitors" or the "pressures from new suppliers". They evaluate rather low the "government incentives", "the threat of large competitors" or the "order from top management". On the other hand, the main obstacle blocking the path to eCommerce is the belief that Greek people and culture resist the new technology followed far behind by the "lack of interest from top

management” and the perception that “there is not enough knowledge about eCommerce technology”. They don’t see “lack of technical skills” or “insufficient funds” or the idea of eCommerce being a “highly risky endeavor” as real barriers. It could be stated, then, based on the above first two conclusions, that their strategic views of and attitudes towards eCommerce are at large in line with the international paradigm as set by the relative professionals in the digitally developed countries.

The third conclusion is that they don’t utilize their knowledge and understanding of the value of eCommerce. Indeed, it comes out from the study that the majority of the web sites of the local companies are informational with a good number of them being of the publishing type and far less having some transactional functionalities of questionable quality, though. Similarly with the geographic scope of their solutions which is actually rather local despite the executives’ claim it is global. As to the level of investment the results are disappointing showing mainly an initial cost around the €1,500 mark and either no maintenance or just less than 1% of the companies’ annual budget. The question that is raised, then, is why is that so since they are the ones (presumably) who make the decisions for their companies.

Fourth, as to the executives’ expectations from their eCommerce solutions they seem to be equally happy if it helps “reduce human- or other- resource costs and transaction processing time”, or it “improves or innovates products and/or services enriching them with added value” or if it helps “serve existing customer base better, expand the customer base or open new markets”. They don’t seem quite interesting in getting good results of a more monetary or generally financial nature but if these numbers are poor they are ready to consider such a situation as a failure. They also consider as failure the “lack of benefit to their customers” and if there are “problems in organization and execution”. Regarding the time they would accept as required to see the results of their eCommerce strategies followed they, once again, are inline with the professionals and experts in the digitally developed countries allowing something between 6 months and 3 years.

Fifth, this study proved that eCommerce solutions of the Greek companies are weak and unable to provide the services and trust the Greek consumers demand in an attractive way. The vast majority of the elements that characterize a good web site are not present or are poorly implemented with the only exception being their interface. It is what one would call an “inconsistency” between executives’ beliefs of the what should be done and their actual actions towards eCommerce.

This brings the discussion to the sixth and last question of this part of the research that is who is to blame for the negligent growth of eCommerce activity in the country and what do these professionals project and plan for the future of eCommerce in Greece. When they were given the opportunity they articulated their own views. Some put all the responsibility to the marketing people who, they claim, did not find new ways to use eCommerce as a marketing tool. One of the first priorities they expect marketing people to set is go beyond the “hype” and enthusiasm and find ways to use it effectively like it was done in the companies of the digital economies worldwide. Kyriakides Anastasios, general manager of Kleeman – one of the major industries in Greece – pointed the truth about its misuse:

"Most people don't know in Greece what eCommerce is. They believe that with just a web site, they are done but this is wrong. We are investing and believe in eCommerce" (Kyriakides Anastasios, Kleeman, interview 2005).

Others tend to explain the whole situation of eCommerce stagnation as one aspect of the Greek society and culture manifested in a number of different ways. It is how the Greeks like to communicate even when purchasing things putting personal contact above anything else unless they have a lot to gain. It is the way the previous generations' business people think and behave hesitant of any new technology and quite reluctant to utilize it. It is people's fear of making a financial transaction on the web; the fear of fraud and the like.

It is mainly a matter of mentality. These types of executives conscientiously struggle to bring the whole issue down to earth, without underestimating eCommerce. Andrianakis Petros of BYTE Computer A.E.V.E keeps on stressing to every direction that eCommerce is not everything but should be looked at as a powerful tool together with other to help businesses achieve their goals:

"Don't get crazy about it. It should be used in sectors where it is really needed. It is not needed in the retail sector. It's a scary scenario to have people not getting out of their home and just buy everything they need through the Net" (Petros Andrianakis, BYTE Computer A.E.V.E., interview 2005).

One of the pioneers of information technology in Greece, Haris Manakos of the Greek Sugar Industries, expressed it succinctly although in a radical way when he said:

"eCommerce is not yet used in Greece. It is in idle situation and wherever present always misused in that area; everything is done in a non-organized or, even worse, badly organized way; business people are following the 'zero-sum game' (going just for the

money) strategy when engaging to it” (Haris Manakos, Greek Sugar Industries, interview 2005).

Of course, there are a few executives who put the blame on themselves recognizing some practices and mentality which does not help towards eCommerce growth. Alekos Mouratides of ALCO food industries, a major supplier in Northern Greece, underlined this common problem of Greek “thinking”:

“We are still in the "Ice Age" as far as eCommerce. Furthermore, I believe there will be shrinking of retail stores and merging of many of them under the eCommerce umbrella. This will happen after a few years. As far as eCommerce we are still far behind. Most business people in Greece are seeking for ways to ‘make easy money’ playing the ‘zero-sum game’. No plans and of course no strategy for the near or far future. The business world in Greece these days is in great need of ‘ants’ (i.e. workers) and not of ‘grasshoppers’ meaning ‘smart’ fake business people” (Alekos Mouratides, ALCO Food Industries, interview 2005).

In general it could be argued that the way large businesses’ executive approach the whole issue of eCommerce in Greece reflects the actual level of maturity, lack of it rather, in the country as to this matter. eCommerce in the country is in its infancy. The executives with a deeper knowledge and understanding about it ... just wait. They wait for the general public to get more actively and not just academically or casually involved with it. They wait for the government to clear the landscape of the business environment related to it by providing the appropriate framework, mainly legal, inside which businesses may operate. They wait for the internet service providers to offer the appropriate infrastructure for the internet technology at a good price that everyone is able to afford. They wait for the whole population to become at least more informed about related issues if not well technology literate.

Until the above parameters are set and assured they seem to be just “shooting on the air” for anything that “smells” profit in relation to the new technology. Thus, they mainly play the “zero-sum” game going after the various funding opportunities and programs originating usually from the Greek government. The author and many other local experts believe the market as it stands now is like a “big bubble” quite ready to explode and only when that happens the real players will be able to offer real value eCommerce products and services to the public at good and inexpensive but not necessarily cheap prices.

### **6.3 Consumers preferences and attitudes towards eCommerce**

The second part of the study relates to the online population in Greece. Although quite comparable to other non-developed and third world countries, and constantly growing even not very rapidly, it is still considerably below that of the E.U. and the developed countries with which it should be compared. Furthermore, this population consists mainly of teachers, youngsters, academics and professionals. A large and healthy, as far as income, part of the population, the working force, is still far from getting involved and utilizing the new technology and eCommerce. It needs a specific education policy to bring these people closer to the digital world. The Greek digital economy cannot afford to let this large group get far behind if the intention is to be part of the global world's digital economy.

In this part of the study the following research questions were to be answered:

- Why is it that Greek digital consumers do not commit to eCommerce transactions, i.e. purchase products or services over the internet,
- Does this phenomenon relate only to local businesses or is it a general one applying to global businesses as well,
- What could businesses do to provide consumers with “incentives” that could trigger positive reactions on the part of digital consumers and how would the digital consumers' evaluate the businesses' web sites experts.

The results from the study showed some interesting facts quite disturbing and discouraging as to the future of eCommerce. The first is that Greek consumers do not trust plastic money which is essential part of every electronic transaction, regardless if it is a credit or a debit card. To make things even worse, even some of those who used plastic money for such types of transactions in the past regret this and are, now, quite reluctant in doing the same thing in the future. Another reason for this very low score of eCommerce activity is the fact consumers are not comfortable with the process of making a transaction and prefer instead to touch and feel the products they intend to buy. Apart from that, the preferences of the digital consumers as of the types of products and/or services most willing to purchase or hire while online does not differ much from those in other more developed digital countries. Music, books, CDs, videos and travel options are preferred the most, whereas drugs, medical advice, grocery and the like are preferred the least.

Second, surprisingly enough local consumers tend to trust well-known international brands and firms rather than the relevant Greek ones. However, they are not quite at

ease with the English language most often used in the web sites they visit which is one more reason they are avoiding any type of eCommerce transaction.

An experimental evaluation of Greek web sites from non-IT users which was conducted as part of the study showed that despite the fact in some questions their responses differed from those of the IT professionals, the results suggest there is a general agreement between them. Concerning security and privacy there is almost 7% difference between the opinions of the responses while the results of the evaluation for accessibility and hard/software requirements are quite balanced. This is an indication that non-IT users do evaluate the accessibility dimension in a similar way with IT users when they understand it or being explained of the related terms as explained in chapter 4. Similarly there is only a slight difference of 3.2% when customization and globalization features are evaluated. The only considerable difference in opinions is related to website design/ stickiness. The results find non-IT users more flexible as of the design quality and features implemented than IT experts. These all indicate that once IT people design and develop a web site following certain standards of quality and functionality it is quite likely that the digital consumers will follow and put their appreciation and liking into these products.

One other problem related to very low eCommerce activity is that although there are many public surveys conducted and published monthly concerned with internet usage and new technologies in Greece, there are only very few seeking the real interests and problems/complaints of the prospect digital consumers. In most cases technology experts seem to follow the usual guidelines for building their web sites. However, not many take seriously, if at all, the real treasure hidden in the log files of their servers in order to form a strategic plan targeting potential digital consumers. They still trust questionable types of self-report surveys, e.g. questionnaires, in times when not many people are eager to truthfully, if at all, answer any questions but rather act when the time is right and there is a need for that.

On the bright side one can only agree that the whole society is slowly but steadily moving towards the digital economy. It started several years ago (1999-2000) when small parts of the local population, mainly youngsters and young people, started using the internet as a new trend, a communication media, a means to get (even illegally) for free things like music, video and games they could not be able to afford otherwise. They started becoming aware of such terms as online reservation systems, online bookstores and the like and associated these terms, named eCommerce later on, with better pricing

schemes for any services they could find online even if that was not always true. In a sense they were “infected” by the new idea of the “magic” of the new technology that eliminated distances between individuals residing in various parts of the world, canceled many of the traditional religious, cultural or societal differences between whole population, brought down to their “knees” or even “to pieces” whole industries like the airline industry, the couriers, the electronics and made them completely revise their strategies aiming just to survive.

The next few years (2002-2006) the rest of the population, mainly the medium aged people between 30 and 50 years old began to realize the way the younger people were pointing. They understood this was not just a “fairy tale” but they could use the technology to bring down family costs in a time period when recession hits everyone and cost reduction is a term not only finance experts understand the need for. The companies, whether internet service providers, IT related or other non-IT businesses, saw this shift towards the technology and began offering online quite competitive pricing schemes for their products and/or services. No doubt they came quite late compared to the relative industries in the rest of the developing or developed countries but at least they did move.

Still the larger by far part of the population is far from the technology of the internet and the eCommerce. To make matters worse a very large part of the population are individuals not even computer literate. Studies conducted locally raise the related percentage to more than 50%. If this is accurate or close to being so, then, there is no need to say a lot more about the prospects of internet penetration and eCommerce activity.

No doubt there is going to be growth but not as rapid as many would expect. The old-fashioned mentality of the local population will have to change first and this is not likely to happen in the very near future. Add to that the “habit” that has it the Greek consumers “trusting” famous “brands” which are mainly international much more than the local businesses and one has all the elements to make conclusive remarks as of where the Greek online market is moving and how quickly.

The problem is this “move” of the Greek society towards the technology is a process of maturity that needs time and it will take that time (a few years up to a decade or so most likely) no matter what one would like. It is all about education of the masses. Whoever knows about education of the masses understand how much time consuming this process



is but the results are assured most of the times. Only one factor may affect this process by accelerating it and that is the local government.

## **6.4 The role of the local governments towards promoting eCommerce**

The Greek governments have a very significant role to play in promoting eCommerce practices. It is a proven fact that only a very small number of enterprises and an insignificant number of companies have engaged in real eBusiness/eCommerce activities on their own as a result of mature corporate strategy targeting the country's digital consumers. The rest of them, not quite many either, just use, abuse rather, the funds made available through the various programmes launched by the Government. That is, of course, if and when they can get enrolled into the respective government programs that bear these funds.

The main incentive programs “eEpixeirein” and “diktiotheite” (free translation: “connect to the Internet” and “make business online” respectively) aim, it seems, at encouraging businesses to invest in the new technologies but the motive from the part of the businesses is quite less clear. These programs should be reanalyzed, their disappointing results thoroughly studied and the whole idea revised and fine tuned to better suit the needs of the companies and, hence, make the incentives more attractive. Unless this is done the question raised, then, is what will happen when all the Government initiatives and funding ends in the future (as it will surely do)? How many, now privileged, companies will still see a great potential for profit in the digital economy? Unless a policy is made from the part of the governments and the businesses together focusing in creating a solid and profitable eCommerce it is quite certain that even the tiny progress made so far towards building the infrastructure for a digital economy will be cancelled.

Complementary to whatever programs are designed to help businesses promote their eCommerce activity there must be others aiming at educating the consumers, from all walks of life, on the new technologies. This is another huge effort that has to be made so that the average person realizes the pros and cons of eCommerce and is left to decide whether it fits his/her needs. It is the only safe way to ensure make people who are normally away from the new technology appreciate the role of the internet in a newly formed digital economy.

Finally, it is inexplicable for any government to aim at creating a large and healthy information society, trying to sustain at the same time the privileges and monopolies of its own public companies. Digital economy and an open free market go hand in hand in all developed digital economies leaving no room for monopolistic practices, like Greek's OTE (Organization for Telecommunications in Greece). There are those who blame the weak information and communications technology infrastructure in the country for the low scores of eCommerce in Greece. They believe things will get much better when costs (including connectivity) are reduced and more people get involved with the Internet (a level of 60%-65%).

Enomonides Kyriakos from Telepassport, a major telecommunications player in Greece stresses it enough and to the extreme: "eCommerce doesn't exist; the main reasons for that are the lack of supportive mechanisms which is mainly because of the nonexistent public infrastructure, the inefficient and ineffective legal framework which does not support the new technologies like electronic signatures, the lack of proper education and training of the greater population. It will happen when broadband service becomes available at a reasonable cost. For now it is used only for emailing and information exchange; Governments run several 'incentive' programs' for 'their' people, the 'few' but this is just it. Mentality has to change from top government executives to lower clerks in all companies."

## **6.5 Some general comments**

Although it is a trend in the developed or developing countries there will be some time before eCommerce comes to Greece full scale. Some very pessimistic experts expect a delay between 5 years and 20 years. A few others, quite upset with the overall situation, take a depressing approach:

"Greece is at a level of a third-world country. People are not really using eCommerce...In our sector, that of Hotel Industry, 95% or above of bookings are by phone. Cities like Thessaloniki should have many more bookings online (the number of online bookings is negligent). Situation is so bad that the so-called second-world countries are not far behind (if at all) Greece in that respect. Businesses promote and invest to it but people don't use it. Not many banks, except 2 or 3 large ones, are offering eCommerce transaction to companies (transferring money through wiring). To put it simple: the option of eCommerce is rarely given in Greece to customers" (Farsin Walizadeh, General Manager of Kempinski Hotel, interview 2005).

The good news about the future of eCommerce in Greece is that according to Kosmides Damianos (Former Mr. Forthnet – one of the major ISPs in Greece, IT/IS consultant to the governor of Thessaloniki) the technology is there; there is only the need for education/training of the masses:

"We are in the cutting edge as far as knowing the technology; eCommerce is not mature as far as its usage and growth but in two/three years it will reach the international levels. In general it is limited to its deployment because the people don't use it. It could (and will) offer opportunities to citizens, consumers but so far people hesitate to use it. There is the need for training to all, but mainly a need for the development of the proper infrastructure which exists but must be improved and offered to the public at low cost." (Damianos Kosmides, Former Mr. Forthnet, interview 2005).

## **6.6 Implications and further research**

This research effort has produced certain results that lead to a number of conclusions about eCommerce in Greece from both a business and a consumer viewpoint. These were all detailed and explained in the previous chapters and the previous sections of the current chapter. However, much to the joy of the author, it has also produced some by-products which might be not less interesting and important although not directly related to the subject.

The first by-product was to find it is not impossible after all, although it is very difficult, to put together all bits and pieces that make up the puzzle of what suggests a good web site, be it a simple one or a very sophisticated. The number of the elements to be evaluated is significant, of course, but limited enough to make the whole idea of evaluating a web site feasible as of time and effort required. Furthermore, the nature of the questions of the template is such that allows even non-experts of the field of eCommerce to use it for their evaluation of their web sites.

The template introduced in this paper could be used as a "marking scheme" for the assessment of all different types of web sites by information and communication technology (ICT) experts in a systematic way. It could also be used by business and other professionals as a suggestion, a rule of thumb indeed, of how could or should their companies' web sites be implemented to meet their online strategies. The main reason the template can deliver both the aforementioned goals is that the questions to be answered carry on them the "correct" approaches of how to address each of the issues related to the development of a web site. Therefore, it is quite straightforward that every positive answer adds one positive point to the overall design of the site with any negative answer pointing to its weaknesses.

The author used a number of Greek web sites to test this systematic methodology that the suggested evaluation template represents. Despite the poor performance of the rather large local information society in eCommerce activity it was possible to use this

template to draw useful conclusions for the quality of the web sites and their effect in eCommerce growth in the country. The author selected the Greek web sites for reasons directly related to the scope of the research study. However, it would be quite interesting to test the same methodology on the web sites of companies in the developed digital economies and those of the underdeveloped countries as well just to see if it is applicable in those cases as well. Also, the methodology was tested on medium-large companies' sites. It would help to see if and how much applicable it would be in the case of small companies as well.

Apparently, like in every other field of information and communications technology this effort is not over. This is only a measurement template. The next step, parallel to updating the template with new ideas and insight from professionals all over the world, is to work towards clarifying the metric against which the various results of measurement should be checked. There could be certain numerical results that distinguish a poor designed web site from a better one and then from a very good one. Probably such a distinction is more complicated as it depends on certain variables including but not limited to the type of the web site, e.g. information level up to full eCommerce solution, the progress towards the digital economy in the country of the company that owns the site, and others.

The second by-product of the study, once again resulting from the first, was to find it is feasible to control, even though not directly, where all the money of the governmental funds are spent by evaluating the web sites deployed by companies. This study proved it is quite possible to evaluate the quality of a web site regardless of how simple or sophisticated it is and measure it. Given this measurement instrument one can find "how much" was done from the part of a company towards developing a quality eCommerce solution. Then, combine this result with any of the software engineering methodologies available that help determine effort and time required to produce it. Assuming that the government officers assigned the task of deciding which company should be enrolled in the various governmental funds know the local market and the appropriate compensations paid to the various professionals it is, then, possible to calculate a rough estimate of the cost of an eCommerce solution. This is a task that would most certainly take some time, probably measured in a few days to complete per company, but the author believes it is worth the effort especially considering the loads of tax payer money spend today in useless and mostly of low quality web sites.

Finally, a third by-product of this study was to find that a lot more qualitative research should be done covering all the range of businesses with an online presence, from the very small to the largest ones. The main governmental bodies of the ministry of economics and finance, the ministry of development and commerce and the ministry of labour are mostly concerned with quantitative statistical facts. Reality has shifted, though, the interest of professionals from the “how many” to the “how to” and “what to do” both as far as business strategies and practices online and in relation to consumer behaviour. Government officials supposedly watching, monitoring and supporting the progress towards the digital economy should, no doubt, take this reality seriously under consideration.

## **6.7 Self evaluation**

At the beginning of the study, some 5 years ago (2002), all the facts lead the author to decide to follow simple analysis methodologies and approaches with a very limited number of variables under question. This was not because of lack of the necessary knowledge and skills required to use more sophisticated analysis techniques like multivariate analysis and tools like SPSS which is a better statistical product than Excel for quantitative analysis of data. The main reason was because the author believed back then that in the case of Greece and the local online market and activity a simplified approach would be enough (Occom’s Razor). The author still believes that was the right approach for the Greek case back then until very recently (late 2006).

Many things changed since then, though, which although do not affect the quality of the findings and the conclusions of this study for the past few years but tend to make them considerably outdated. First, it is quite clear that nowadays the technology has penetrated every single activity in everyday life, even though eCommerce activity is still at just close to 1% levels. Hence, there is a measurable impact of the information and communication technologies, i.e. computer technology, the internet and eCommerce, that affects a variety of industries including music and entertainment, tourism, newspapers and news broadcasting, eGovernment and its agencies like taxation, eBanking, eLearning and many more.

Second, a significantly large number of individuals from all walks of life have been more actively involved in using the technology in various ways as part of their everyday business activity. All these different people, from different industries, with different interests and coming from various backgrounds and financial status, male or female, make the study of eCommerce activity in any developing country like Greece a very

complicated task to address using simplified, even though systematic such as this study, methodologies.

After 12 paper presentations in 6 international conferences related to eCommerce the author is convinced about the need to do the following in order to better examine how the Greek society, industries and governments should move towards, facilitate/establish the infrastructure and organize/address (respectively) the many aspects of eCommerce activity in everyday life:

1. Extend the research to the aforementioned industries of music/entertainment, tourism, eGovernment, eNews, eBanking, eLearning and more.
2. Given more time and human resources increase the size of the samples in every case to about double of what was in this research (i.e. about 300-400 questionnaires from about 150-200 in this research) which is an appropriate size for the Greek population.
3. Given, again, more time and human resources include an equal and representative sample of small but especially small-medium size companies aiming to verify the results of this study coming from medium and large corporations,
4. There is no doubt that for such an extensive research it would take a more aggressive and much less simplified multivariate analysis using more advanced tools (mentioned earlier) either to address the qualitative issues or the quantitative ones.

It would take another 2-3 years period of time for such a study to be successfully conducted. The author has already begun such a task and is aware of others that have also initiated such processes. It is about time academic research in Greece moves away from the purely quantitative quite trivial elements related to internet usage and eCommerce activity to the qualitative ones.

There is no doubt that with the only exception being the size of the information society in Greece the rest of the elements that constitute its digital economy do not appear quite promising. A very large percentage of the small or medium size companies are not even online. Whole parts of the population especially the elders are not involved in the information age and the rest who are involved do not engage in eCommerce activity either because they are unable for several reasons or because they are unwilling. The online businesses do not seem to be attractive enough for the vast majority of those local consumers willing and able to engage in eCommerce activity.

The problem is that eCommerce is the powerhouse for the advent of the digital economy in every country including Greece. Unless it grows substantially and attracts more businesses and consumers the various government incentives will not be enough to ensure its prospects in the future. The encouraging fact is that Greece is not the first country in which attempts are made towards the increase of the digital consumer's population and eCommerce growth. There is, always, the international paradigm especially of the advanced digital economies worldwide in which similar attempts have been made in the recent past some of them successful while others not quite so. Just a quick review of the international literature, both off- and on-line, on the disastrous "dot.com" phenomenon that took place during the late 1990s and early 2000s especially in the U.S. is enough to prove that professionals in these advanced digital economies had their fair share of mistakes. The difference, so far, between them and the Greek professionals and government agents is that they learned from their flaws, corrected them revising their online strategies and the results appear promising. It only takes some deeper study of what went right and what went wrong for the local professionals to solve the riddle of how to make some progress towards eCommerce growth.

## **6.8 Current update**

Just a couple of months before this study went for publication certain progress towards eCommerce activity has started happening. Four elements of the digital economy in the country began to change rapidly and this caused a considerable transformation of the way business people approach the idea of engagement to eCommerce and the consumers' react to the new trend of online purchasing:

- Significant reduction of prices for internet connectivity,
- Integration of mobile telephony, broadband internet connectivity and even digital/satellite TV in a single packages marketed aggressively and sold in relatively low prices,
- Considerable shift of the consumers' mentality towards the digital technologies and eCommerce practices,
- Overall appreciation of the role of the internet technology and the web in modern everyday activities.

First, after quite some time, almost 5 years later than other European Union countries, internet connectivity prices went down to levels comparable to those countries. Prices of around €15 a month for a 1Mbps broadband connection are the norm today. Actually the old dial-up line prices are so close to broadband that subscribers are discouraged to select the former instead of the latter. Combine this reality with the aggressive sales



promotion strategies of the local internet service providers that, “informally”, suggest the downloading of all kinds of digital material like music and video, legally or illegally they don’t care, and there’s a explosive mixture of how one can tempt whole populations to become internet users first in hope that many will also commit online transactions later.

The second element was the very aggressive sales strategies of the mobile communications companies in the country. Their executives probably realized that the mobile communications market is almost filled, with the customer turnover between these companies causing just the reduction of mobile phone call prices to the point of leaving much less room for profit than in the recent past. They saw the trend towards integrating wired telephony with mobile telephony and internet technology at the same time. This move has caused the past few months an unprecedented level of competition between local public switch telephone network companies, mobile operators and internet service providers offering comprehensive products at very competitive prices that cover the household’s overall telecommunications and internet connectivity needs in one package.

Third element of the digital economy that changed is the consumers’ trust and appreciation of the online businesses. Actually, as suggested in earlier section of this study, the author did expect such a shift to occur as a quite reasonable consequence of the former youngsters and young adults entering the active working force in the country while carrying on their online habits. Only now they have credit cards and some money to spend. Quite as expected this shift has caused an increase not of the online population, which did not change significantly the past couple of years, but of the number of individuals getting involved into online transaction. This has also caused a number of either large local companies investing more seriously towards eCommerce solutions or of new player entering the arena. Just in a few months new names have appeared on the digital platform and they seem to make the difference promising growth of eCommerce.

Finally, the fourth element that has changed is the local people’s appreciation of the quality and power of the web and of the freedom of choice they enjoy through it. The new wave of communicating and/or broadcasting has reached the Greek community as well. Terms like eNews, eGovernment, YouTube, Video Telephony over the internet, Blogs, online communities (peer to peer or other) and many others that tend to cancel the traditional clubs, newspapers, TV shows, TV news and the like are very well known

especially among the younger people and very much used today. These are not surprising changes. The author and every other person studying internet use and eCommerce activity in the country would certainly expect them. The only surprising element is the sudden turn of events the past very few months towards this direction instead of taking a couple of years or a little more as the reason would suggest.

The above changes do not cancel this study as outdated or obsolete. The key points suggested here are still valid and, the author believes, quite useful. This is especially so at this time when there is a clear shift from the part of the companies towards eCommerce practices and a set of guidelines are needed to help that cause. However, although not quite the case yet, if the current trend of rapid transformation of the local digital economy continues for the next couple of years we could talk about a real revolution having taken place bringing along the need to study from start everything related to it.

## **6.9 Value of the study**

This study served two rather different causes. First, it was meant to be used by Greek experts and professionals as a tool to evaluate the standing of their strategies, approaches and ultimately the outcome of their engagement in the field of eCommerce. An effort was made to identify the problems related to the application of eCommerce in the country both from a business and a consumer perspective. Solutions to these problems were directly or indirectly suggested based on the knowledge and experience from the digital developed countries' paradigm.

The second cause was to provide a kind of a "rule of thumb", a direction and a template to all those professionals and experts in the developing and/or underdeveloped countries where the digital economies are just now begin to develop. The author hopes that through the problems, mistakes and wrong doings of a European country embracing the digital economy not too long ago other countries' official might learn the things they need to do and those they need to avoid aiming towards successfully entering the digital world.

## Appendix A: Global internet penetration 2003

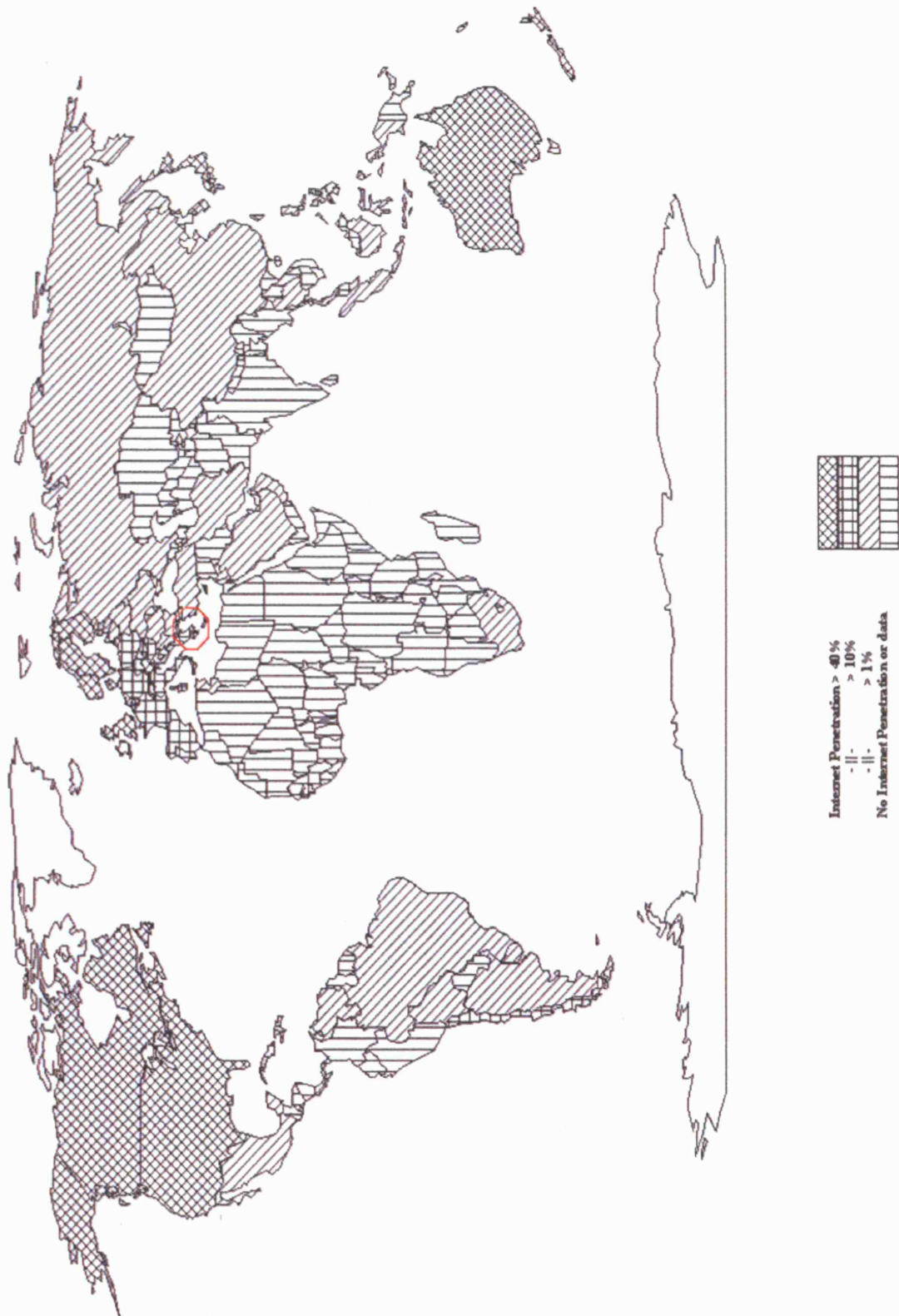


Figure 57: Global internet penetration 2003 (Xanthidis and Nicholas, 2004)

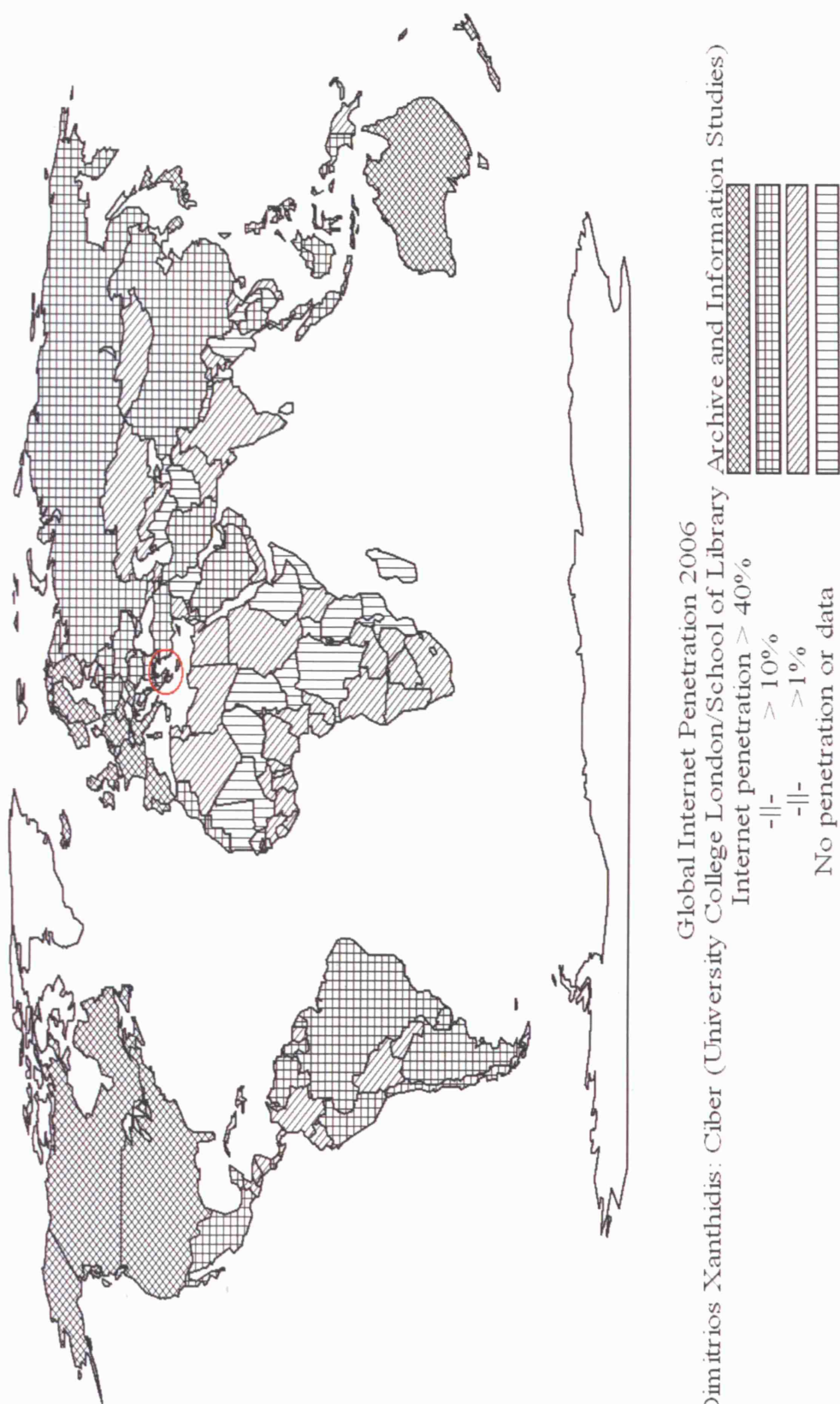


Figure 58: Global internet penetration 2006

**Appendix B: Survey of eCommerce perceptions and actions/activities in Greece**

**Ciber**

**(Centre for Informational Behaviour and the Evaluation of Research)**

**University College of London**

**Tell us what you think about eCommerce practices in Greece.**

This survey originates from University College of London research group Ciber and aims to help evaluate the situation of eCommerce practices in Greece from the marketing, management, and information systems experts' point of view.

**Thank you in advance for your time in completing this questionnaire to the best of your knowledge. Your answers will remain strictly confidential. Survey results will be used in statistical format only.**

**On behalf of Ciber**

**Professor David Nicholas**

**PhD research student Dimitrios Xanthidis**

## **Part I: Personal and Company info**

**1. Company name:** \_\_\_\_\_

**2. How many people are employed by the company you work for?**

- |  |   |
|--|---|
| <input type="checkbox"/> 1. Don't know | <input type="checkbox"/> 4. 100 – 499       |
| <input type="checkbox"/> 2. 1 – 9      | <input type="checkbox"/> 5. 500 – 999       |
| <input type="checkbox"/> 3. 10 – 99    | <input type="checkbox"/> 6. More than 1,000 |

**3. Department of your responsibility:**

- ☐ 1. IT/IS
- ☐ 2. Marketing
- ☐ 3. Management

**4. Education (Tick all that apply):**

- |  |   |
|--|---|
| <input type="checkbox"/> 1. High School                            | <input type="checkbox"/> 4. Vocational Studies (I.V.S., T.P.S.)       |
| <input type="checkbox"/> 2. Associate Degree (2 years)             | <input type="checkbox"/> 5. Bachelor's Degree (B.A., B.S.)            |
| <input type="checkbox"/> 3. Master's Degree (M.A., M.B.A., M.I.S.) | <input type="checkbox"/> 6. PhD Degree (Marketing, Management, IT/IS) |

**5. Experience in the current post or related posts in other companies (Tick one):**

- |   |  |
|---|--|
| <input type="checkbox"/> 1. 0 – 3 years | <input type="checkbox"/> 3. 8 – 10 years       |
| <input type="checkbox"/> 2. 4 – 7 years | <input type="checkbox"/> 4. More than 10 years |

## **Part II: Rationale behind the decision to engage in eCommerce activities**

**6. Take a general definition of eCommerce as the “conducting business activities using the Internet and in particular the Web” which includes on- and off-line eCommerce and all types of Web sites (from the very simple to the most sophisticated and comprehensive). Rank the following suggestions/beliefs of various scholars/influential people/business people based on your views about the role of eCommerce in the business world. The one you agree the least should be ranked lowest (1) whereas the one you agree most should be ranked highest (7). Note: no two choices can be ranked the same, i.e. each mark between 1 and 7 should be used just once.**

- ☐ 1. In 5 years all companies will be eCompanies or they will not exist at all
- ☐ 2. By 2010 the only big companies will be eCompanies
- ☐ 3. Companies have no choice if they want to stay competitive but to engage in eCommerce
- ☐ 4. It is necessary to form and follow an eCommerce strategy before engaging eCommerce
- ☐ 5. It is wrong to believe that all business activities are done better on the Web
- ☐ 6. The only way to get rich on the Internet is to sell drugs or porn or the like
- ☐ 7. There is no real benefit/profit in engaging in eCommerce
- ☐ 8. No opinion

**7. Which of the following drivers led (or could lead in the future) to the decision of engaging eCommerce? Please select all that apply. Furthermore just mark as “top” the most important.**

- |   |   |
|---|---|
| <input type="checkbox"/> 1. Government incentives                         | <input type="checkbox"/> 2. Pressures from suppliers or other business partners |
| <input type="checkbox"/> 3. Customers demanding to deal on the Internet   | <input type="checkbox"/> 4. Need to increase the value/status of the business   |
| <input type="checkbox"/> 5. Orders of top management                      | <input type="checkbox"/> 6. Industry changes and trends                         |
| <input type="checkbox"/> 7. Opportunity to expand and grow                | <input type="checkbox"/> 8. Threat of large competitors taking the business     |
| <input type="checkbox"/> 9. Threat of new competitors taking the business | <input type="checkbox"/> 10. Need to keep up with existing competition          |
| <input type="checkbox"/> 11. No opinion                                   |   |



**8. How would you translate the terms “success” and “competitive advantage” for your business? Select all that apply. Furthermore just mark as “top” the most important.**

- ☐ 1. Reduction of the human- or other-resource costs and processing time associated with transaction
- ☐ 2. Improve or innovate products and/or services, enrich the existing with value added
- ☐ 3. Serve existing customer base better, expand the customer base either through eMarketing (email, ecatalogs, etc), or open new markets
- ☐ 4. Stabilize, protect and even increase financial profits (i.e. share's value, or high flow of incoming cash)
- ☐ 5. No opinion

**9. What have been (or might be) the barriers/obstacles that would cancel any plans to engage eCommerce? Select all that apply. Furthermore just mark as “top” the most important.**

- ☐ 1. Risk too high
- ☐ 2. Unable to find a way to make money from it
- ☐ 3. A threat to the existing way of doing business
- ☐ 4. Resistance by people and the culture to the new technology
- ☐ 5. Lack of interest by top management
- ☐ 6. Insufficient funds
- ☐ 7. Lack of the right technical skills
- ☐ 8. Not enough knowledge about eCommerce technology
- ☐ 9. Don't know

**10. Which member(s) of the company you work for developed, suggested, contributed, decided (or could do the previous in the future) about the eCommerce strategy to be followed? Select all that apply.**

- ☐ 1. Shareholders
- ☐ 2. Top Management
- ☐ 3. Department managers
- ☐ 4. Marketing executives
- ☐ 5. Information technology experts
- ☐ 6. Staff
- ☐ 7. Don't know

### **Part III: Deploying an eCommerce strategy**

#### **11. How would you classify the purpose of online (Web) presence of the company you work for (Tick one)?**

- ☐ 1. Don't know
- ☐ 2. No website at all
- ☐ 3. Marketing/Informational: Use of the Internet as a billboard to broadcast the company's profile together with some general product/services information. Communication through email
- ☐ 4. Publishing/eCatalogs: all the previous and, furthermore, advertising of the company's comprehensive catalog of products/services specifications
- ☐ 5. Transactional: all the previous, plus accepting and processing orders online, securing online transaction and payment, suggesting delivery method/channel on- or off-line, tracking of the status of the orders and their delivery
- ☐ 6. Interactive: integration of the Internet technology to every day's business activities, i.e. sharing information between various departments, etc., in addition to all features mentioned previously

#### **12. What was the initial cost (in relative figures) the company you work for had to invest for the development of the eCommerce application, either in-house (from IT/IS experts of the company) or by outside vendors? (Tick one)?**

- |  |   |
|--|---|
| <input type="checkbox"/> 1. Don't know       | <input type="checkbox"/> 5. €30,000 - €149,000  |
| <input type="checkbox"/> 2. Less than €1,000 | <input type="checkbox"/> 6. €150,000 - €600,000 |
| <input type="checkbox"/> 3. €1,000 - €5,999  | <input type="checkbox"/> 7. More than €600,000  |
| <input type="checkbox"/> 4. €6,000 - €29,999 |   |

#### **13. What was the annual budget (in relative figures) the company you work for had to spend for the maintenance of the eCommerce application, either in-house (from IT/IS experts of the company) or by outside vendors compared to the annual budget of the company for all departments and activities? (Tick one)?**

- |  |  |
|--|--|
| <input type="checkbox"/> 1. Don't know         | <input type="checkbox"/> 4. Between 1% and 5%  |
| <input type="checkbox"/> 2. Just initial costs | <input type="checkbox"/> 5. Between 5% and 10% |
| <input type="checkbox"/> 3. Less than 1%       | <input type="checkbox"/> 6. More than 10%      |

**14. Who did you assign the task of developing and/or maintaining your Web site?**

**Select all that apply.**

- |   |  |
|---|--|
| <input type="checkbox"/> 1. Don't know/can't say              | <input type="checkbox"/> 4. New subsidiary or company  |
| <input type="checkbox"/> 2. Subcontracting to outside vendors | <input type="checkbox"/> 5. New unit or department,  |
| <input type="checkbox"/> 3. Joint venture or alliance         | <input type="checkbox"/> 6. ICT, marketing, management, logistics, legal experts from within existing departments of the company |

**15. How many people (as percentage compared to the total human resources) of the company are assigned the task of developing and/or maintaining your eCommerce site (Tick one)**

- |  |  |
|--|--|
| <input type="checkbox"/> 1. Don't know/can't say | <input type="checkbox"/> 4. Between 1% and 5%  |
| <input type="checkbox"/> 2. None (outsourcing)   | <input type="checkbox"/> 5. Between 5% and 10% |
| <input type="checkbox"/> 3. Less than 1%         | <input type="checkbox"/> 6. More than 10%      |

**16. How long do you believe is long enough to see the results of the eCommerce deployment?**

- |  |   |
|--|---|
| <input type="checkbox"/> 1. Don't know/can't say   | <input type="checkbox"/> 4. Between 6 months and one year |
| <input type="checkbox"/> 2. Less than a month      | <input type="checkbox"/> 5. Between 1 and 3 years         |
| <input type="checkbox"/> 3. Between 1 and 6 months | <input type="checkbox"/> 6. More than 3 years             |

**Part IV: Expectation and projections of the role of eCommerce in tomorrow's business environments**

**17. Which of the following would be a good reason to evaluate as a failure the eCommerce strategy the company you work for has followed? Select all that apply. Furthermore just mark as "top" the most important.**

- |   |   |
|---|---|
| <input type="checkbox"/> 1. Poor revenue, cost and profit model | <input type="checkbox"/> 4. Problems in organization and execution    |
| <input type="checkbox"/> 2. No competitive advantage            | <input type="checkbox"/> 5. Ineffective management and fulfillment    |
| <input type="checkbox"/> 3. Lack of benefit to customers        | <input type="checkbox"/> 6. Conflicts with existing business partners |

**18. What is the geographic scope of your company's eCommerce Web site as far as local or international targeting of groups of people and/or businesses? Tick one.**

- ☐ 1. Don't know/can't say
- ☐ 2. Local to the geographic region within the country,
- ☐ 3. People and/or businesses within the country in any region,
- ☐ 4. People and/or businesses within the greater Mediterranean region and/or the Balkans,
- ☐ 5. People and/or businesses within European Union,
- ☐ 6. Global (international scope, no geographical boundaries or other limits),

**19. How do you believe eCommerce practices will affect the company your work? Select all that apply. Furthermore just mark as "top" the most important**

- ☐ 1. Ecommerce will transform the organization,
- ☐ 2. The Internet will be central to the business strategy of the company,
- ☐ 3. Ecommerce will support major growth thrusts,
- ☐ 4. New products and/or services will exploit the Internet,
- ☐ 5. Ecommerce will cause minor changes in the way of working,
- ☐ 6. There are no significant plans to expand to eCommerce.

**20. What is your opinion about eCommerce as a practice used by Greek businesses with a local or global scope? Select all that apply. Furthermore just mark as "top" the most important**

- ☐ 1. No opinion
- ☐ 2. It is going to change the way of doing business in the future
- ☐ 3. An underemployed tool that could help companies achieve their strategic goals
- ☐ 4. Helps the integration of businesses through better organization of available resources
- ☐ 5. Consumers don't really appreciate and make use of it
- ☐ 6. An overestimated tool that can't produce the results (financial, marketing, or other) expected

**21. Tell us your opinion about eCommerce (from a simple web site to a highly sophisticated system on the Web) from a local (Greece, your company's sector) to a global (worldwide) perspective.**

## Appendix C: Companies' web sites evaluated

Companies: <http://www.presspoint.gr/sectors.asp>

(Sources: ASE (Athens Stock Exchange): companies in blue background,

Presspoint.gr: companies in white background)

Sector 1:	Food, beverages and tobacco industry	Web Site
1.	Coca Cola Greece S.A.	<a href="http://www.cocacola.gr/">www.cocacola.gr/</a>
2.	Chipita International A.B.&E.E.	<a href="http://www.chipita.com">www.chipita.com</a>
3.	Katseli & Sons A.B.E.E.	<a href="http://www.katselis.gr">www.katselis.gr</a>
4.	Eurofarma A.B.E.E.	<a href="http://www.evrofarma.gr">www.evrofarma.gr</a>
5.	CMA	<a href="http://www.cma-greece.gr">www.cma-greece.gr</a>
6.	Diageo	<a href="http://www.diageo.com">www.diageo.com</a>
7.	Intercatering	<a href="http://www.intercatering.gr/">www.intercatering.gr/</a>
8.	Kraft Foods	<a href="http://www.kraftfoods.gr/">www.kraftfoods.gr/</a>
9.	Nestle Hellas	<a href="http://www.nestle.gr/online">www.nestle.gr/online</a>
10.	Athens Beers S.A	<a href="http://www.amstel.gr/">www.amstel.gr/</a>
11.	Alatini S.A.	<a href="http://www.allatini.com.gr">www.allatini.com.gr</a>
12.	Vasiliou Wines	<a href="http://www.vassilioudomaine.gr/">www.vassilioudomaine.gr/</a>
13.	Delta Ice Creams S.A.	<a href="http://www.delta.gr/">www.delta.gr/</a>
14.	Dodoni Ice-Creams A.B.E.E	<a href="http://www.dodoni.com.gr/">www.dodoni.com.gr/</a>
15.	ELAIS S.A. Olive products businesses	<a href="http://www.elais.gr/">www.elais.gr/</a>
16.	Pedestrians Union	<a href="http://www.pezaunion.gr/">www.pezaunion.gr/</a>
17.	Thraki S.A	<a href="http://www.thraki-sa.gr">www.thraki-sa.gr</a>
18.	INO S.A.	<a href="http://www.inowines.gr/">www.inowines.gr/</a>
19.	Kanakis ST. A.B.E.E.	<a href="http://www.stelioskanakis.gr/">www.stelioskanakis.gr/</a>
20.	Kri-Kri Milk Company A.B.E.E.	<a href="http://www.krikri.gr/">www.krikri.gr/</a>
21.	Lazaridis Wines S.A.	<a href="http://www.domaine-lazaridi.gr/">www.domaine-lazaridi.gr/</a>
22.	Mevgal S.A.	<a href="http://www.mevgal.gr/">www.mevgal.gr/</a>
23.	Mega Farm	<a href="http://www.megafarm.gr/">www.megafarm.gr/</a>
24.	Melisa - Kikizas	<a href="http://www.melissa-kikizas.gr/">www.melissa-kikizas.gr/</a>
25.	Mparmpa Stathis Foods S.A.	<a href="http://www.geniki-trofimon.gr/">www.geniki-trofimon.gr/</a>
26.	Louli Mills S.A	<a href="http://www.loulisgroup.com">www.loulisgroup.com</a>
27.	Nostimo A.E.B.E	<a href="http://www.musses.gr/">www.musses.gr/</a>
28.	Xifias Fish S.A	<a href="http://www.xifias.gr/">www.xifias.gr/</a>
29.	Chatzikraniotis & Sons	<a href="http://www.xatzikranioti.gr/">www.xatzikranioti.gr/</a>
Sector 2:	Chemical industries	Web Site
1.	Veterin A.B.E.E.	<a href="http://www.veterin.com/">www.veterin.com/</a>
2.	PLIAS A.B.&E.E.	<a href="http://www.plias.gr/">www.plias.gr/</a>

3.	Druckfarben Hellas S.A.B.E.	<a href="http://www.druckfarben.gr/">www.druckfarben.gr/</a>
4.	Ballis Chemicals A.E.B.E.	<a href="http://www.ballis.gr/profile">www.ballis.gr/profile</a>
5.	Kerakoll Hellas	<a href="http://www.kerakoll.com/">www.kerakoll.com/</a>
6.	Neochimiki L.V. Lavrentiadis A.B.E.E.	<a href="http://www.neochimiki-lavrentiadis.gr/">www.neochimiki-lavrentiadis.gr/</a>
7.	Famar S.A.	<a href="http://www.famar.gr/">www.famar.gr/</a>
Sector 3: Transport equipment manufacturing		Web Site
1.	Neorion Shipyards S.A	<a href="http://www.neorion-shipyards.gr/">www.neorion-shipyards.gr/</a>
2.	Sfakianakis S.A.B.E.	<a href="http://www.suzuki.gr/">www.suzuki.gr/</a>
3.	Petropoulos, P., S.A.&B.E.	<a href="http://www.petropoulos.com/">www.petropoulos.com/</a>
4.	Hyundai Hellas	<a href="http://www.hyundai.gr/hyundai/">www.hyundai.gr/hyundai/</a>
Sector 4: Financial sector		Web Site
1.	Alpha Leasing S.A.	<a href="http://www.alpha.gr/introen.html">www.alpha.gr/introen.html</a>
2.	Progress Funds S.A.	<a href="http://www.progressfund.gr/">www.progressfund.gr/</a>
3.	New Millennium Investments A.E.E.X.	<a href="http://www.newmillenniumaeex.gr/">www.newmillenniumaeex.gr/</a>
4.	Dias fund A.E.E.X.	<a href="http://www.diasfund.gr">www.diasfund.gr</a>
5.	Altius Investments S.A.E.X.	<a href="http://www.altius.gr/">www.altius.gr/</a>
6.	Credit Petropoulakis	<a href="http://www.credit-sec.gr/">www.credit-sec.gr/</a>
7.	Eurocapital Financial Services	<a href="http://www.athenstock.com/">www.athenstock.com/</a>
8.	EuroXX Finance	<a href="http://www.euroxx.gr/">www.euroxx.gr/</a>
9.	Investor EΠE	<a href="http://www.investor.gr/">www.investor.gr/</a>
10.	Aspis Bank	<a href="http://www.aspisecc.gr/">www.aspisecc.gr/</a>
11.	Eurodynamics S.A.E.X.	<a href="http://www.eudynamics.gr/">www.eudynamics.gr/</a>
Sector 5: Insurance and pension funding services		Web Site
1.	Ethniki Insurance .A.E.Γ.A.	<a href="http://www.ethniki-asfaltistiki.gr/">www.ethniki-asfaltistiki.gr/</a>
2.	Agrotiki Insurances S.A.	<a href="http://www.agroins.com/">www.agroins.com/</a>
3.	Phoenix Metrolife S.A	<a href="http://www.phoenix-metrolife.com/">www.phoenix-metrolife.com/</a>
4.	Aspis Pronia S.A. General Insurances	<a href="http://www.aspis.gr/">www.aspis.gr/</a>
5.	Europisti S.A.Γ.A.	<a href="http://www.europisti.gr/">www.europisti.gr/</a>
6.	Alico AIG Life	<a href="http://www.alico.gr/">www.alico.gr/</a>
7.	ING Hellas	<a href="http://www.ing.gr/">www.ing.gr/</a>
8.	International Life Group	<a href="http://www.inlife.gr/">www.inlife.gr/</a>
9.	Megaservice Ltd.	<a href="http://www.megaservice.gr/">www.megaservice.gr/</a>
10.	Eurobrokers S.A.	<a href="http://www.eurobrokers.gr/">www.eurobrokers.gr/</a>
11.	Interamerican Insurance S.A.	<a href="http://www.interamerican.gr/">www.interamerican.gr/</a>
12.	Syneteristiki AEEΓA	<a href="http://www.syneteristiki.gr/">www.syneteristiki.gr/</a>
Sector 6: IT services		Web Site



1.	Logicdis S.A.	<a href="http://www.logicdis.gr">www.logicdis.gr</a>
2.	Ipirotiki Software & Publications S.A.	<a href="http://www.ipirotiki.gr/">www.ipirotiki.gr/</a>
3.	Compucon Computer Applications A.B.E.E.	<a href="http://www.compucon.gr/GR/">www.compucon.gr/GR/</a>
4.	Logismos S.A.	<a href="http://www.logismos.gr/">www.logismos.gr/</a>
5.	01 Pliroforiki A.E.	<a href="http://www.01p.gr/">www.01p.gr/</a>
6.	ABC Professional Services S.A.	<a href="http://www.abc.gr/">www.abc.gr/</a>
7.	ACE Advanced Applications S.A.	<a href="http://www.ace.gr/">www.ace.gr/</a>
8.	ACOM S.A.B.E.	<a href="http://www.acom.gr/">www.acom.gr/</a>
9.	Actis Information Systems S.A.	<a href="http://www.actis.gr/">www.actis.gr/</a>
10.	Active Computer Systems E.Π.E	<a href="http://www.active.gr">www.active.gr</a>
11.	Adacom S.A	<a href="http://www.adacom.com">www.adacom.com</a>
12.	Ahead Rm A.E	<a href="http://www.aheadrm.com">www.aheadrm.com</a>
13.	Algo Systems S.A.	<a href="http://www.algo.com.gr">www.algo.com.gr</a>
14.	Alpha Grissin INFOTECH S.A.	<a href="http://www.alphagrissin.gr/">www.alphagrissin.gr/</a>
15.	Alpha IT S.A	<a href="http://www.alphait.gr/">www.alphait.gr/</a>
16.	Alphyra Hellas	<a href="http://www.alphyra.gr/home/">www.alphyra.gr/home/</a>
17.	Altasoft	<a href="http://www.altasoft.gr/">www.altasoft.gr/</a>
18.	American Computers & Engineers Hellas S.A.	<a href="http://www.ace-hellas.gr/">www.ace-hellas.gr/</a>
19.	Anixter Greece Network Systems	<a href="http://www.anixter.gr/">www.anixter.gr/</a>
20.	Apollo	<a href="http://www.apollo.gr/">www.apollo.gr/</a>
21.	Areia S.A.	<a href="http://www.areianet.gr/">www.areianet.gr/</a>
22.	Arion Software	<a href="http://www.arion.gr/">www.arion.gr/</a>
23.	Binary Logic Computers E.Π.E	<a href="http://www.mmpi.net/">www.mmpi.net/</a>
24.	Cardisoft S.A.	<a href="http://www.cardisoft.gr/">www.cardisoft.gr/</a>
25.	Datablue S.A.	<a href="http://www.datablue.gr">www.datablue.gr</a>
26.	Hipac S.A.B.E.	<a href="http://www.hipac.gr/">www.hipac.gr/</a>
27.	Infomap S.A.	<a href="http://www.infomap.gr/">www.infomap.gr/</a>
28.	Mantis IT S.A.E.	<a href="http://www.mantis.gr/">www.mantis.gr/</a>
29.	Gnomon IT S.A.	<a href="http://www.gnomon.com.gr/">www.gnomon.com.gr/</a>
Sector: 7	Communications and Telecommunications Services	Web Site
1.	Vodafone – Panafon S.A.E.T.	<a href="http://www.vodafone.gr">www.vodafone.gr</a>
2.	Forthent S.A.	<a href="http://www.forthnet.gr">www.forthnet.gr</a>
3.	Lanet S.A.B.E.T.	<a href="http://www.lannet.gr/">www.lannet.gr/</a>
4.	Intersat S.A.	<a href="http://www.intersat.gr/">www.intersat.gr/</a>
5.	Algonet Telecommunications S.A	<a href="http://www.algonet.gr">www.algonet.gr</a>
6.	Chorus Call Hellas S.A.	<a href="http://www.choruscall.com/">www.choruscall.com/</a>



7.	Com-Tonet S.A.	<a href="http://www.com-tonet.gr">www.com-tonet.gr</a>
8.	Cosmoline S.A.	<a href="http://www.cosmoline.com/">www.cosmoline.com/</a>
9.	Hellas Sat S.A.	<a href="http://www.hellas-sat.net/">www.hellas-sat.net/</a>
10.	OTEGlobe	<a href="http://www.oteglobe.gr/">www.oteglobe.gr/</a>
11.	Plural A.E.T.B.E.	<a href="http://www.plural.gr/">www.plural.gr/</a>
12.	Stet Hellas Telecommunications A.E.B.E	<a href="http://www.tim.gr/">www.tim.gr/</a>
13.	Teledome	<a href="http://www.teledome.gr/">www.teledome.gr/</a>
14.	Telepassport Hellas	<a href="http://www.telepassport.gr/">www.telepassport.gr/</a>
15.	Tellas Telecommunications S.A	<a href="http://www.tellas.gr/">www.tellas.gr/</a>
16.	Unitel Hellas S.A	<a href="http://www.unitel.gr/">www.unitel.gr/</a>
17.	Uunet Hellas	<a href="http://www.gr.uu.net/">www.gr.uu.net/</a>
18.	Vivodi Telecommunications S.A	<a href="http://www.vivodi.gr/">www.vivodi.gr/</a>
19.	Voiceweb S.A.	<a href="http://www.voiceweb.gr/">www.voiceweb.gr/</a>
20.	Winet	<a href="http://www.winet.gr/">www.winet.gr/</a>
21.	Newsphone Hellas A.E.E.	<a href="http://www.newsphone.gr/">www.newsphone.gr/</a>
22.	Mediatel Telephone Information S.A.	<a href="http://www.mediatel.gr/">www.mediatel.gr/</a>
23.	Cosmote Mobile Telecommunications S.A.	<a href="http://www.cosmote.gr/">www.cosmote.gr/</a>
24.	Q-Telecom	<a href="http://www.myq.gr/">www.myq.gr/</a>

Sector 8:	Health and social services	Web Site
1.	IASO S.A.	<a href="http://www.iaso.gr">www.iaso.gr</a>
2.	Euromedica S.A	<a href="http://www.euromedica.com.gr/">www.euromedica.com.gr/</a>
3.	Ygeia Diagnostic & Therapeutic Center, Athens S.A	<a href="http://www.hygeia.gr/">www.hygeia.gr/</a>
4.	Medicon Hellas A.E.	<a href="http://www.mediconsa.com/">www.mediconsa.com/</a>
5.	Biorehab Hellas	<a href="http://www.biorehab.gr/">www.biorehab.gr/</a>
6.	Gerolimatos Group of Companies	<a href="http://www.gerolymatos.gr/">www.gerolymatos.gr/</a>
7.	Thessaloniki Psychiatric Hospital	<a href="http://www.psychotes.gr/">www.psychotes.gr/</a>
Sector 9:	Media and printing (newspapers)	Web Site
1.	Lampraki Press Group S.A.	<a href="http://www.dol.gr/">www.dol.gr/</a>
2.	Kathimerini S.A.	<a href="http://www.kathimerini.gr">www.kathimerini.gr</a>
3.	Inform P. Lykos S.A	<a href="http://www.lykos.gr/">www.lykos.gr/</a>
4.	Imako Media Net Group S.A.	<a href="http://www.imako.gr/">www.imako.gr/</a>
5.	Technical Press S.A	<a href="http://www.technicalpress.gr/el/">www.technicalpress.gr/el/</a>
6.	Alpha Satellite TV S.A.	<a href="http://www.alphatv.gr/">www.alphatv.gr/</a>
7.	Filalthis	<a href="http://www.filathlos.gr/">www.filathlos.gr/</a>
8.	MAD TV Productions	<a href="http://www.mad.gr/">www.mad.gr/</a>
9.	Ellinika Grammata Publications	<a href="http://www.ellinikagrammata.gr/">www.ellinikagrammata.gr/</a>

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|-----|-----------------------------|--|
| 10. | Asfalisi Net                | <a href="http://www.asfalisinet.gr">www.asfalisinet.gr</a>         |
| 11. | Amalthia Publications S.A   | <a href="http://www.euro2day.gr/">www.euro2day.gr/</a>             |
| 12. | Alter TV S.A.               | <a href="http://www.alter.gr/">www.alter.gr/</a>                   |
| 13. | Greek Radio Television S.A. | <a href="http://www.ert.gr/">www.ert.gr/</a>                       |
| 14. | Click FM ΕΠΕ                | <a href="http://www.klikfm.gr/">www.klikfm.gr/</a>                 |
| 15. | OPAP S.A.                   | <a href="http://www.opap.gr/">www.opap.gr/</a>                     |
| 16. | Mega TV S.A                 | <a href="http://www.megatv.com/">www.megatv.com/</a>               |
| 17. | Alupress S.A                | <a href="http://www.alupress.gr/">www.alupress.gr/</a>             |
| 18. | Biokosmos News              | <a href="http://www.bioshop.gr/">www.bioshop.gr/</a>               |
| 19. | Compupress S.A.             | <a href="http://www.compupress.gr/">www.compupress.gr/</a>         |
| 20. | Direction Publications S.A  | <a href="http://www.direction.gr/">www.direction.gr/</a>           |
| 21. | Europress Publications      | <a href="http://www.europress.gr/">www.europress.gr/</a>           |
| 22. | Knowledge Systems S.A.      | <a href="http://www.business2005.gr/">www.business2005.gr/</a>     |
| 23. | Metamedia                   | <a href="http://www.metohos.com">www.metohos.com</a>               |
| 24. | Motor Press Hellas AEE      | <a href="http://www.chip.gr/">www.chip.gr/</a>                     |
| 25. | Newspaper Direct Hellas     | <a href="http://www.newspaperdirect.gr">www.newspaperdirect.gr</a> |
| 26. | Northmedia Publications     | <a href="http://www.city231.gr/">www.city231.gr/</a>               |
| 27. | Option Press S.A.           | <a href="http://www.optionpress.gr/">www.optionpress.gr/</a>       |
| 28. | Smartpress S.A.             | <a href="http://www.smartpress.gr/">www.smartpress.gr/</a>         |
| 29. | Travel Times Publishing ΕΠΕ | <a href="http://www.traveltimes.gr/">www.traveltimes.gr/</a>       |

**Sector 10: Metal/machinery manufacturing – Mineral and Cement**

**Web Site**

- |     |  |  |
|-----|--|--|
| 1.  | ELVAL S.A.                                       | <a href="http://www.elval.gr/">www.elval.gr/</a>                 |
| 2.  | Metal Company Arkadias Cr. Rokas A.B.E.E.        | <a href="http://www.rokasgroup.gr/">www.rokasgroup.gr/</a>       |
| 3.  | Profil Pipe Company S.A.                         | <a href="http://www.tzirakian.com/">www.tzirakian.com/</a>       |
| 4.  | FITCO S.A.                                       | <a href="http://www.fitco.gr/">www.fitco.gr/</a>                 |
| 5.  | S & B Industrial Minerals S.A                    | <a href="http://www.s.andb.gr/">www.s.andb.gr/</a>               |
| 6.  | Naxos Marbles AEBE                               | <a href="http://www.naxos-marble.com/">www.naxos-marble.com/</a> |
| 7.  | Pavlidis Marbles & Granites S.A                  | <a href="http://www.pavlidismg.com/">www.pavlidismg.com/</a>     |
| 8.  | F.H.L. H. Kyriakidis Marbles - Granites A.B.E.E. | <a href="http://www.fhl.gr/">www.fhl.gr/</a>                     |
| 9.  | Betanet A.B.E.E.                                 | <a href="http://www.betanet.gr/">www.betanet.gr/</a>             |
| 10. | Heracles Cements Group                           | <a href="http://www.aget.gr/">www.aget.gr/</a>                   |
| 11. | Iktinos Hellas S.A.                              | <a href="http://www.iktinos.gr/">www.iktinos.gr/</a>             |
| 12. | Mathios Refractories S.A                         | <a href="http://www.mathios.gr/">www.mathios.gr/</a>             |
| 13. | Sidma S.A.                                       | <a href="http://www.sidma.gr/">www.sidma.gr/</a>                 |
| 14. | Metka Metal Constructions Hellas S.A.            | <a href="http://www.metka.gr/">www.metka.gr/</a>                 |

15.	Grecian Magnesite AMBNEE	<a href="http://www.grecianmagnesite.com/">www.grecianmagnesite.com/</a>
16.	Spider Metal Industry S.A.	<a href="http://www.spidersa.com/">www.spidersa.com/</a>
17.	MEVACO A.B.E.E.	<a href="http://www.mevaco.gr/">www.mevaco.gr/</a>
Sector 11: Education		Web Site
1.	Alba	<a href="http://www.alba.edu.gr/">www.alba.edu.gr/</a>
2.	Alexander	<a href="http://www.alexanderinst.gr/">www.alexanderinst.gr/</a>
3.	Andim	<a href="http://www.andim.gr/">www.andim.gr/</a>
4.	Business Training Center	<a href="http://www.btc.com.gr/">www.btc.com.gr/</a>
5.	Centre of European Management Studies (CEMS)	<a href="http://www.cems.gr/">www.cems.gr/</a>
6.	Compact S.A.	<a href="http://www.compact.gr/">www.compact.gr/</a>
7.	Delta Singular Training S.A.	<a href="http://www.ds-training.gr/">www.ds-training.gr/</a>
8.	Didacta Training Group	<a href="http://www.didacta.gr/">www.didacta.gr/</a>
9.	ECDL Hellas S.A.	<a href="http://www.ecdl.gr/">www.ecdl.gr/</a>
10.	Icon International Training	<a href="http://www.icon.gr/">www.icon.gr/</a>
11.	Infotest	<a href="http://www.certification.gr/">www.certification.gr/</a>
12.	Inte*learn	<a href="http://www.intelearn.gr/">www.intelearn.gr/</a>
13.	ITEC S.A.	<a href="http://www.itec.edu/">www.itec.edu/</a>
14.	New York College	<a href="http://www.nyc.gr/">www.nyc.gr/</a>
15.	Proseed	<a href="http://www.proseed.gr/">www.proseed.gr/</a>
16.	Akmi IEK	<a href="http://www.iek-akmi.gr/">www.iek-akmi.gr/</a>
17.	American College, Hellas	<a href="http://www.acg.edu/">www.acg.edu/</a>
18.	Xinis Educational Group	<a href="http://www.xinis.com/">www.xinis.com/</a>
19.	Crete Educational Institutes	<a href="http://www.sport-tourism.com/">www.sport-tourism.com/</a>
20.	Aegean University	<a href="http://www.aegean.gr/">www.aegean.gr/</a>
21.	Omiros Training Group	<a href="http://www.omiros.gr/">www.omiros.gr/</a>
22.	Futurekids S.A S.A.	<a href="http://www.futurekids.edu.gr/">www.futurekids.edu.gr/</a>
23.	Piraeus University, Department of Industrial Management and Technology	<a href="http://www.tex.unipi.gr/">www.tex.unipi.gr/</a>
Sector 12: Retail		Web Site
1.	Atlantic Supermarket A.E.E	<a href="http://www.atlantic.gr/">www.atlantic.gr/</a>
2.	Duty Free Shops, Greece S.A.	<a href="http://www.dutyfreeshops.gr/">www.dutyfreeshops.gr/</a>
3.	Promota Hellas S.A	<a href="http://www.promota.gr/">www.promota.gr/</a>
4.	AS Company S.A.	<a href="http://www.ascompany.gr/index.jsp">www.ascompany.gr/index.jsp</a>
5.	Expert Suppliers S.A.	<a href="http://www.exporthellas.gr/">www.exporthellas.gr/</a>
6.	Glorybook-Economist Co.,E.I.E.	<a href="http://www.glorybook.gr/">www.glorybook.gr/</a>
7.	Metro AEBE	<a href="http://www.metro.com.gr/">www.metro.com.gr/</a>



8.	Metropolis	<a href="http://www.metropolis.gr/">www.metropolis.gr/</a>
9.	Moda Bagno N. Varveris S.A.	<a href="http://www.modabagno.gr/">www.modabagno.gr/</a>
10.	Multirama A.B.E.E.	<a href="http://www.multirama.gr/">www.multirama.gr/</a>
11.	Oriflame	<a href="http://www.oriflame.gr/">www.oriflame.gr/</a>
12.	Sara Lee Coffee and Tea Hellas S.A.	<a href="http://www.bravo.gr/">www.bravo.gr/</a>
13.	Tupperware Hellas S.A.	<a href="http://www.tupperware.gr/">www.tupperware.gr/</a>
14.	Vadas A.E.B.E.E.	<a href="http://www.vardas.gr/">www.vardas.gr/</a>
15.	Vassilias S.A.	<a href="http://www.vassilias.gr/">www.vassilias.gr/</a>
16.	Eikona – Ixos A.E.E	<a href="http://www.e-h.gr/">www.e-h.gr/</a>
17.	Electornici Athens A.E.E.	<a href="http://www.electroniki.gr/">www.electroniki.gr/</a>
18.	Interflora S.A	<a href="http://www.interflora.gr/">www.interflora.gr/</a>
19.	Kotsobolos A.E.B.E.	<a href="http://www.kotsovolos.gr">www.kotsovolos.gr</a>
20.	Marinopoulos Group	<a href="http://www.marinopoulos.gr/">www.marinopoulos.gr/</a>
21.	Plaisio Computers A.E.B.E.	<a href="http://www.plaisio.gr/">www.plaisio.gr/</a>
22.	Hatzigeorgiou S.A	<a href="http://www.hatz.gr/">www.hatz.gr/</a>
Sector 13: Tourism [Hotels]		Web Site
1.	Louis Hotels	<a href="http://www.louishotels.com/">www.louishotels.com/</a>
2.	Loutraki Club Hotel Casino	<a href="http://www.clubhotelloutraki.gr/">www.clubhotelloutraki.gr/</a>
3.	Metropolitan Hotel	<a href="http://www.chandris.gr/">www.chandris.gr/</a>
4.	Park Hotel Athens	<a href="http://www.athensparkhotel.gr/">www.athensparkhotel.gr/</a>
5.	Rodos Park Suites Hotel	<a href="http://www.rodospark.gr/">www.rodospark.gr/</a>
6.	Astir Palace Vouliagmenis A.Ξ.E.	<a href="http://www.astir.gr/">www.astir.gr/</a>
7.	GEKE S.A.	<a href="http://www.president.gr/">www.president.gr/</a>
8.	Divans Hotels Group	<a href="http://www.divanis.gr/">www.divanis.gr/</a>
9.	Ioniki Hotels S.A.	<a href="http://www.ionianhe.gr/">www.ionianhe.gr/</a>
10.	Capsis Tourist Group S.A.	<a href="http://www.capsis.gr/">www.capsis.gr/</a>
11.	Porto Carras	<a href="http://www.portocarras.com/">www.portocarras.com/</a>
Sector 14: Government		Web Site
1.	Greek Parliament	<a href="http://www.parliament.gr">www.parliament.gr</a>
2.	National Administration Center	<a href="http://www.ekdd.gr">www.ekdd.gr</a>
3.	Peiraias District	<a href="http://www.nomarhiapeiraia.gr">www.nomarhiapeiraia.gr</a>
4.	Ministry of development	<a href="http://www.ypan.gr">www.ypan.gr</a>
5.	Ministry of foreign affairs	<a href="http://www.mfa.gr">www.mfa.gr</a>
Sector 15: Business services		Web Site
1.	Promaxon S.A	<a href="http://www.procom.gr/">www.procom.gr/</a>
2.	Forever Print Recycling	<a href="http://www.foreverprint.gr/">www.foreverprint.gr/</a>
3.	Euroconsultants S.A	<a href="http://www.euroconsultants.com.gr">www.euroconsultants.com.gr</a>

## Appendix D: Web site Evaluation Template

<b>Dimension I: Stickiness</b>			
<b>1.</b>	Lack of tendency to use scrolling mechanisms.	<b>Yes = 1</b>	<b>No = 0</b>
<b>2.</b>	<b>Hyperlink placement/style</b>		
i.	Hyperlinks easily accessible (in a glance)?	<b>Yes = 1</b>	<b>No = 0</b>
ii.	Presence of floating hyperlinks (embedded in bars)?		<b>No = 0</b>
iii.	Font properties (name, size, bold/no bold, color) of the text hyperlinks distinguishing them from the rest of the text?	<b>Yes = 1</b>	<b>No = 0</b>
iv.	Icons used in graphical type hyperlinks intuitively identifiable, i.e. do they represent the target object or are they misleading?	<b>Yes = 1</b>	<b>No = 0</b>
<b>3.</b>	<b>Hyperlink target/content</b>		
i.	Tendency NOT to have dead hyperlinks in the site (use home page)?	<b>Yes = 1</b>	<b>No = 0</b>
ii.	Hyperlinks lead to relevant pages?	<b>Yes = 1</b>	<b>No = 0</b>
<b>4.</b>	<b>Site maps</b>		
i.	Presence of any type of site map, i.e. site tree diagram, drop-down menus, etc.?	<b>Yes = 1</b>	<b>No = 0</b>
iv.	Mapping mechanisms informative as of the actual depth in which the user navigates?	<b>Yes = 1</b>	<b>No = 0</b>
<b>5.</b>	<b>Web site user interface attractiveness</b>		
i.	Appropriate and appealing?	<b>Yes = 1</b>	<b>No = 0</b>
ii.	Lack of Distracting and annoying elements?	<b>Yes = 1</b>	<b>No = 0</b>
<b>6.</b>	<b>Information quality and completeness</b>		
i.	Any “read more” hyperlinks available clarifying possibly broad, unclear or unknown topics to the reader?	<b>Yes = 1</b>	<b>No = 0</b>
ii.	Is the information provided in the Web site signed and, thus, credible?	<b>Yes = 1</b>	<b>No = 0</b>
iii.	Is the information provided updated on a reasonably expected timeliness?	<b>Yes = 1</b>	<b>No = 0</b>
iv.	Any internal search engine available?	<b>Yes = 1</b>	<b>No = 0</b>
<b>7.</b>	<b>Visitor’s feedback enabled and online help available</b>		
i.	Email links available to the visitors?	<b>Yes = 1</b>	<b>No = 0</b>

- |      |   |                |               |
|------|---|----------------|---------------|
| ii.  | Online surveys available?                 | <b>Yes = 1</b> | <b>No = 0</b> |
| iii. | Feedback forms available?                 | <b>Yes = 1</b> | <b>No = 0</b> |
| iv.  | On line help available (e.g. FAQs, etc.)? | <b>Yes = 1</b> | <b>No = 0</b> |

## **Dimension II: Customization and Globalization**

### **1. Languages supported (cocacola.com is worldwide)**

- |      |  |                |               |
|------|--|----------------|---------------|
| i.   | English  | <b>Yes = 1</b> | <b>No = 0</b> |
| ii.  | Spanish  | <b>Yes = 1</b> | <b>No = 0</b> |
| iii. | Chinese  | <b>Yes = 1</b> | <b>No = 0</b> |
| iv.  | French   | <b>Yes = 1</b> | <b>No = 0</b> |
| v.   | German   | <b>Yes = 1</b> | <b>No = 0</b> |
| vi.  | Other (Greek, Turkish, Arabic, Hebrew, Japanese, etc.) | <b>Yes = 1</b> | <b>No = 0</b> |

### **2. Colors used: Is Web site color related with the cultural background (Western, Asian, etc) of the targeted population?**

	<b>Yes = 1</b>	<b>No = 0</b>
--	----------------	---------------

### **3. Issues related to globalization**

- |      |  |                |               |
|------|--|----------------|---------------|
| i.   | Briefing/information provided concerning import/export and taxation issues?                      | <b>Yes = 1</b> | <b>No = 0</b> |
| ii.  | Any restrictions applicable for a commodity to be exported/ imported to/ from certain countries? | <b>Yes = 1</b> | <b>No = 0</b> |
| iii. | Any list of countries on which import/export restrictions apply?                                 | <b>Yes = 1</b> | <b>No = 0</b> |
| iv.  | Any information provided about available shipping/ delivery options?                             | <b>Yes = 1</b> | <b>No = 0</b> |

### **4. Level of customization the Web site achieves**

- |      |   |                |
|------|---|----------------|
| i.   | Level 0: No customization   |                |
| ii.  | Level 1: Content → display information based on previous user interaction and preferences stored in log files.  |                |
| iii. | Level 2: Suggestive → display information on relevant or competitive commodities/services.                      | <b>Yes = 1</b> |
| iv.  | Level 3: Informative → display further clarifications on issues not in the sphere of the knowledge of the user. |                |

- v. Level 4: Design format → lets the user permanently decide the layout of the Web site as it appears to his/her browser.
- vi. Level 5: Language and Culture → identifies the user's preference of language and culture based on the IP address of the user's system or on the user's selection of a region/country from a map/list available.

**5. Payment – shipping/billing options**

- i. List of different payment options available? **Yes = 1 No = 0**
- ii. Detailed description of each payment option available? **Yes = 1 No = 0**
- iii. Currency converter available? **Yes = 1 No = 0**
- iv. Use of the universal “postal code” instead of the regional “zip code”? **Yes = 1 No = 0**

**Dimension III: Accessibility, Availability, Hardware/ Software requirements**

- 1. Is the Web site accessible (Platform Compatibility) **Yes = 1 No = 0**
- 2. Is the Web site optimized for users with health abnormalities? **Yes = 1 No = 0**
- 3. **Hardware/ Software/ Network requirements**
  - i. Time required loading the Web site's home page? **<10" = 1 No = 0**
  - ii. Web site displayed properly, i.e. no horizontal scrolling mechanisms, no twisting of objects, etc., in different display resolutions? **Yes = 1 No = 0**
  - iii. Option to download and install “third party” components required to view the Web site, e.g. activeX, flash players, different fonts, etc. **Yes = 1 No = 0**

**Dimension IV: Security, Privacy**

**1. Security**

- i. Authentication required to login to possible intranet part of the site? **Yes = 1 No = 0**
- ii. If transactional or interactive what protocol are **Yes = 1 No = 0**



- they using (None, SSL, SET, Other)?
- |      |   |                |                    |
|------|---|----------------|--------------------|
| iii. | What is the cipher strength?                          | <b>Yes = 1</b> | <b>&lt;128 = 0</b> |
| iv.  | On-line anti-virus scanner available?                 | <b>Yes = 1</b> | <b>No = 0</b>      |
| v.   | Web site expires after a defined amount of idle time? | <b>Yes = 1</b> | <b>No = 0</b>      |

## **2. Privacy**

- |      |   |                |               |
|------|---|----------------|---------------|
| i.   | Avoid the use of tracking/ identifying mechanisms i.e. cookies, spy ware, etc, without the consent of the user? | <b>Yes = 1</b> | <b>No = 0</b> |
| ii.  | Privacy statement?  | <b>Yes = 1</b> | <b>No = 0</b> |
| iii. | Masked e-mail addresses through scripts, forms, buttons, etc?   | <b>Yes = 1</b> | <b>No = 0</b> |

## **Appendix E: Consumer Behaviour & Attitudes Towards internet usage and eCommerce activity**

### **Questionnaire**

#### **Part 1: Personal questions ...**

- Q1. Select the range of ages that better matches your age.**
- |                      |                      |
|----------------------|----------------------|
| A. Between 18 and 25 | B. Between 26 and 33 |
| C. Between 34 and 41 | D. Between 42 and 50 |
| E. Over 50           |                      |
- Q2. What is your gender?**
- |         |           |
|---------|-----------|
| A. Male | B. Female |
|---------|-----------|
- Q3. What is your education?**
- |                                      |                          |
|--------------------------------------|--------------------------|
| A. High school                       | B. Vocational studies    |
| C. University degree (BSc, BA, etc.) | D. Graduate degree       |
| E. Doctoral degree                   | F. Don't know/ Can't say |
- Q4. What would best characterise your occupation?**
- |                                |                              |
|--------------------------------|------------------------------|
| A. Student                     | B. Academic                  |
| C. Employee (public sector)    | D. Employee (private sector) |
| E. Self-employed               | F. Retired                   |
| G. Unemployed                  | H. Don't know/ Can't say     |
| I. Other, please specify ..... |                              |
- Q5. What you would say is your field of expertise.**
- |                           |                         |
|---------------------------|-------------------------|
| A. Natural science        | B. Human science        |
| C. Medicine               | D. Medical related      |
| E. Art                    | F. Technical/Mechanical |
| G. Business/Economic      | H. ICT Related          |
| I. Don't know / Can't say | J. Other:.....          |
- Q6. What is your average yearly income?**
- |                                |                                |
|--------------------------------|--------------------------------|
| A. Less than € 3000            | B. Between € 3000 and € 10000  |
| C. Between € 10000 and € 25000 | D. Between € 25000 and € 50000 |
| E. More than € 50000           | F. Don't know / Can't say      |

**Q7. Are you a credit/debit card holder?**

A. Yes

B. No

**Part 2: About Internet Usage ...**

**Q8. What is your approximate use of internet?**

A. No use

B. A couple of hours per month

C. Less than 2 hours per week

D. Between 2 and 14 hours per week

E. More than 2 hours per day

F. Don't know/ Can't say

**Q9. How do you use internet in your shopping processes?**

A. Informational: you search through the internet for alternatives and then buy from the stores.

B. Buying: you search through the internet for alternatives and then buy online.

C. None of the above

**Part 3: About Digital Consumers' online preferences ...**

**Q10. Would you use a credit/debit card for online transaction?**

A. Yes

B. No

C. Don't know / Can't say

**Q11. Have you ever done any online transaction?**

A. Yes

B. No

C. Don't know / Can't say

**Q12. What type of goods or services would you be willing to purchase/hire online? Please indicate all of them.**

A. Books, music, videos, CDs, software

B. Consumer electronics or home appliance (TV, radio, refrigerators)

C. Computers, peripherals, computer supplies

D. Clothing and apparel

E. Insurance, financial services or participation in online auctions

F. Travel options (online reservation for tickets or holiday packages)

G. Automobile related

- H. Online education
- I. Grocery
- J. Buying drugs online or using online medical advice
- J. Live online chat (receiving help for maintenance or using communities)
- K. Other, please specify: .....

**Q13 Below you see a number of obstacles/barriers that refrain from executing an online transaction. Please circle 1 for not agree at all, and 5 for strongly agree**

- A. Afraid of using my Credit/Debit card for e-transaction.
 

1	2	3	4	5
---	---	---	---	---
- B. Not comfortable with online shopping procedures.
 

1	2	3	4	5
---	---	---	---	---
- C. Don't trust online stores.
 

1	2	3	4	5
---	---	---	---	---
- D. Won't buy the things I can't touch first.
 

1	2	3	4	5
---	---	---	---	---
- E. Don't enjoy online shopping.
 

1	2	3	4	5
---	---	---	---	---
- F. e-shopping is associated with delivery problems.
 

1	2	3	4	5
---	---	---	---	---
- G. e-shopping is associated with poor quality products.
 

1	2	3	4	5
---	---	---	---	---
- H. e-shopping is not worth its high risk.
 

1	2	3	4	5
---	---	---	---	---
- I. Internet connection costs are high.
 

1	2	3	4	5
---	---	---	---	---
- J. Don't trust on my connection to disclose credit/debit card information through it.
 

1	2	3	4	5
---	---	---	---	---

**Q14. Please circle the most suitable number depending on your ideas. 1 for not agree at all, and 5 for strongly agree.**

- A. I trust Greek sites more.
 

1	2	3	4	5
---	---	---	---	---
- B. I trust internationally well-known sites more.
 

1	2	3	4	5
---	---	---	---	---
- C. Lack of English knowledge is a barrier for me to using international sites.
 

1	2	3	4	5
---	---	---	---	---
- D. I don't know enough Greek sites for e-shopping.
 

1	2	3	4	5
---	---	---	---	---
- E. I prefer the sites which offer me more options

	1	2	3	4	5
F. I prefer to compare the alternatives easily during my online purchase.	1	2	3	4	5
G. Brands play an important role in my purchases	1	2	3	4	5
H. Price is the most important factor in my purchase decisions.	1	2	3	4	5
I. I prefer to shop behind a computer and without any face-to-face contact.	1	2	3	4	5
I. I prefer to spend as less time as possible while shopping.	1	2	3	4	5

**Q15. Below you see a list of local and international sites. Please check the ones that you would be willing to purchase online from.**

**International:**

- A. Yahoo.com
- B. Google.com
- C. msn.com
- D. ebay.com
- E. amazon.com
- F. passport.net
- G. paypal.com
- H. bestbuy.com
- I. Aol.com
- J. go.com
- K. Alibaba.com
- L. imdb.com
- M. Microsoft.com
- N. Apple.com
- O. Mediaplex.com
- P. If you want to add any local or international site please use below space:

.....

**Q16. Name up to five Greek web sites that you would trust and be willing to shop.**

- A. C.
- B. D.

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